

David Bollier & Silke Helfrich
Editors

THE WEALTH OF THE

COMMONS

**A WORLD BEYOND
MARKET & STATE**

THE COMMONS
STRATEGIES GROUP

THE WEALTH OF THE COMMONS:

A World Beyond Market and State

Edited by *David Bollier* and *Silke Helfrich*

The Commons Strategies Group

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Our first thanks, then, goes to the contributors who took the time to share their experiences and thinking about the commons. We hope that their essays, as now assembled in one volume, will begin to open up new conversations that might not otherwise occur. Many of them were brought to wider attention at the landmark International Commons Conference in Berlin in November 2010. In many respects, this book is a continuation of the cross-disciplinary, transnational, heart-to-heart dialogues that began there.

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We noted earlier that the preparation of this book was an exercise in commoning. Our immodest hope is that *The Wealth of the Commons* will be but a simple foretaste of an outrageous banquet of commoning that lies ahead.

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Introduction

The Commons as a Transformative Vision

*By David Bollier and Silke Helfrich
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It has become increasingly clear that we are poised between an old world that no longer works and a new one struggling to be born. Surrounded by an archaic order of centralized hierarchies on the one hand and predatory markets on the other, presided over by a state committed to planet-destroying economic growth, people around the world are searching for alternatives. That is the message of various social conflicts all over the world – of the Spanish Indignados and the Occupy movement, and of countless social innovators on the Internet. People want to emancipate themselves not just from poverty and shrinking opportunities, but from governance systems that do not allow them meaningful voice and responsibility. This book is about how we can find the new paths to navigate this transition. It is about our future.

But since there is no path forward, we must make the path. This book therefore is about some of the most promising new paths now being developed. Its seventy-three essays describe the enormous potential of the commons in conceptualizing and building a better future. The pieces, written by authors from thirty countries, fall into three general categories – those that offer a penetrating critique of the existing, increasingly dysfunctional market/state partnership; those that enlarge our theoretical understandings of the commons as a way to change the world; and those that describe innovative working projects that are demonstrating the feasibility and appeal of the commons.

This book begins by offering a number of theoretical analyses of the importance of the commons to the contemporary political economy. Part I includes essays that explore, for example, the “tragedy of the anticommons” dynamic in which excessive, fragmented property rights impede innovation and cooperation; the important differences between “common goods” and “public goods”; and the ways in which the commons challenges some elemental principles of modernity, liberalism and law. New thinking in theoretical biology suggests that the methodology of nature itself favors the commons as a stable, self-sustaining paradigm. The commons, then, is a paradigm that embodies its own logic and patterns of behavior, functioning as a different kind of operating system for society. While many of its dynamics are still hidden to minds steeped in market culture, learning about particular commons can help us recognize the commons as a useful, general paradigm.

The essays of Part II focus on the commodification and privatization of shared resources – the enclosure of the commons – one of the great, untold stories of our time. Enclosures are dispossessing tens of millions of farmers and pastoralists whose lives depend upon customary land commons in Africa, Asia and Latin America. They are disenfranchising urban dwellers whose parks and public spaces are being turned into private, commercial developments; and Internet users who are beset by new copyright laws, digital encryption and international treaties that lock up culture; as well as ordinary citizens whose access to credit is limited by private banks.

Happily, as we see in Parts III and IV, a rich explosion of commons-based experimentation and innovation can be seen around the world. Commons-based models of provisioning represent the building blocks for a new sort of economy, a Commons Sector. Such models can be seen in “collaborative consumption” systems for swaps, barter and sharing; Chilean fishing commons that have stabilized declining Pacific fisheries; fruit-picking commons in Germany that allow people to pick from local fruit trees that have been abandoned; and an ingenious scheme to establish a new type of international trust to save a biodiverse-rich region of Ecuador from oil drilling.

Some of the most recent and exciting commons-based innovations are related to the digital world, as we see in Part IV. Among the examples examined here are the rise of Creative Commons licenses throughout the world; the creation of a regional digital commons in Linz, Austria, designed to reinvigorate its local economy and civic life; and the peer-to-peer economy’s powerful role in reinventing societal institutions.

Part V explores how the viability of bottom-up commons often depends upon supportive institutions, policy regimes and law. This is the new frontier for the Commons Sector: developing new bodies of law and policy to facilitate the practices of commoning on the ground. For this, the state must play a more active role in sanctioning and facilitating the functioning of commons, much as it currently sanctions and facilitates the functioning of corporations. And commoners must assert their interests in politics and public policy to make the commons the focus of innovations in law.

There is a simple, practical reason for developing new types of law and policy to support the commons. As the dysfunctions of the state become more evident – as seen in its inability to solve the financial crisis or curb ecological destruction – the state has an affirmative interest in helping commons perform tasks that it cannot perform itself. It is important that the state begin to recognize the varieties of collective property regimes (an indigenous landscape, a local agricultural system, an online community) and empower people to be co-proprietary and co-stewards of their commons as a matter of law.

This book does not attempt to present a “unitary perspective on the commons,” which would be oxymoronic in any case, but rather to offer the rich kaleidoscope of perspectives that we have come to expect of the commons. As the reader will soon realize, the commons can be seen as an intellectual framework and political philosophy; it can be seen as a set of social attitudes and commitments; it can be seen as an experiential way of being and even a spiritual disposition; it can be seen

as an overarching worldview. But the truth of the matter is that the commons consists of all of the above. It offers a fresh vocabulary and logic for escaping the deadend of market-fundamentalist politics, policy and economics and cultivating more humane alternatives.

It bears noting that this book is neither a how-to manual nor an encyclopedia. It is a selective survey of some of the more prominent vectors of thought and activism around the commons at this point in history. Necessarily, some perspectives and topics are missing. This volume does not address, for example, the role of arts and the commons, enclosures of outer space and broadcast media, organized labor and the commons, or the impact of technologies such as nanotechnology and geo-engineering. That said, the great virtue of the commons framework is its ability to make sense of new phenomena. Once you have learned to see the world through the lens of the commons, you will naturally apply that perspective to your own encounters with topics we could barely address.

Beyond the market and state

For generations, the state and market have developed a close, symbiotic relationship, to the extent of forging what might be called the market/state duopoly. Both are deeply committed to a shared vision of technological progress and market competition, enfolded in a liberal, nominally democratic polity that revolves around individual freedom and rights. Market and state collaborate intimately and together have constructed an integrated worldview – a political philosophy and cultural epistemology, in fact – with each playing complementary roles to enact their shared utopian ideals of endless growth and consumer satisfaction.

The market uses the price system and its private management of people, capital and resources to generate material wealth. And the state represents the will of the people while facilitating the fair functioning of the “free market.” Or so goes the grand narrative. This ideal of “democratic capitalism” is said to maximize the well-being of consumers while enlarging individual political and economic freedoms. This, truly, is the essence of the modern creed of “progress.”

Historically, the market/state partnership has been a fruitful one for both. Markets have prospered from the state’s provisioning of infrastructure and oversight of investment and market activity. Markets have also benefited from the state’s providing of free and discounted access to public forests, minerals, airwaves, research and other public resources. For its part, the state, as designed today, depends upon market growth as a vital source of tax revenue and jobs for people – and as a way to avoid dealing with inequalities of wealth and social opportunity, two politically explosive challenges.

The financial meltdown of 2007–2008 revealed that the textbook idealization of democratic capitalism is largely a sham. The “free market” is not in fact self-regulating and private, but extensively dependent upon public interventions, subsidies, risk-mitigation and legal privileges. The state does not in fact represent the sovereign will of the people, nor does the market enact the autonomous preferences of small investors and consumers. Rather, the system is a more or less

closed oligopoly of elite insiders. The political and personal connections between the largest corporations and government are so extensive as to amount to collusion. Transparency is minimal, regulation is corrupted by industry interests, accountability is a politically manipulated show, and the self-determination of the citizenry is mostly confined to choosing between Tweedledum and Tweedledee at election time.

The state in many countries amounts to a partner of clans, mafia-like structures or dominant ethnicities; in other countries it amounts to a junior partner of the market fundamentalist project. It is charged with advancing privatization, deregulation, budget cutbacks, expansive private property rights and unfettered capital investment. The state provides a useful fig leaf of legitimacy and due process for the market's agenda, but there is little doubt that private capital has overwhelmed democratic, non-market interests except at the margins. State intervention to curb market excesses is generally ineffective and palliative. It doesn't touch the underlying problem, moreover, it acts instead to legitimize the procedures and principles of the market. In consequence, market forces dominate most agendas. In the U.S., corporations have even been recognized as legal "persons" entitled to give unlimited amounts of money to political candidates.

The presumption that the state can and will intervene to represent the interests of citizens is no longer credible. Unable to govern for the long term, captured by commercial interests and hobbled by stodgy bureaucratic structures in an age of nimble electronic networks, the state is arguably incapable of meeting the needs of citizens as a whole. The inescapable conclusion is that the mechanisms and processes of representative democracy are no longer a credible vehicle for the change we need. Conventional political discourse, itself an aging artifact of another era, is incapable of naming our problems, imagining alternatives and reforming itself.

This, truly, is why the commons has such a potentially transformative role to play. It is a discourse that transcends and remakes the categories of the prevailing political and economic order. It provides us with a new socially constructed order of experience, an elemental political worldview and a persuasive grand narrative. The commons identifies the relationships that should matter and sets forth a different operational logic. It validates new schemes of human relations, production and governance – one might call it "commonance," or the governance of the commons.

The commons provides us with the ability to name and then help constitute a new order. We need a new language that does not insidiously replicate the misleading fictions of the old order – for example, that market growth will eventually solve our social ills or that regulation will curb the world's proliferating ecological harms. We need a new discourse and new social practices that assert a new grand narrative, a different constellation of operating principles and a more effective order of governance. Seeking a discourse of this sort is not a fanciful whim. It is an absolute necessity. And, in fact, there is no other way to bring about a new order. Words actually shape the world. By using a new language, the language of the commons, we immediately begin to create a new culture. We can assert a new order of resource stewardship, right livelihood, social priorities and collective enterprise.

The transformational language of the commons

This new language situates us as interactive agents of larger collectivities. Our participation in these larger wholes (local communities, online affinity groups, intergenerational traditions) does not eradicate our individuality, but it certainly shapes our preferences, outlooks, values and behaviors: who we are. A key revelation of the commons way of thinking is that we humans are not in fact isolated, atomistic individuals. We are not amoebas with no human agency except hedonistic "utility preferences" expressed in the marketplace.

No: We are commoners – creative, distinctive individuals inscribed within larger wholes. We may have many unattractive human traits fueled by individual fears and ego, but we are also creatures entirely capable of self-organization and cooperation: with a concern for fairness and social justice, and willing to make sacrifices for the larger good and future generations.

As the corruption of the market/state duopoly has intensified, our very language for identifying problems and imagining solutions has been compromised. The snares and deceptions embedded in our prevailing political language go very deep. Such dualisms as "public" and "private," and "state" and "market," and "nature and culture," for example, are taken as self-evident. As heirs of Descartes, we are accustomed to differentiating "subjective" from "objective," and "individual" from "collective" as polar opposites. But such polarities are lexical inheritances that are increasingly inapt as the two poles in reality blur into each other. And yet they continue to profoundly structure how we think about contemporary problems and what spectrum of solutions we regard as plausible.

Those either/or categories and the respective words we use have performative force. They make the world. In the very moment that we stop talking about business models, efficiency and profitability as top priorities, we stop seeing ourselves as *Homo economicus* and as objects to be manipulated by computer spreadsheets. We start seeing ourselves as commoners in relationship to others, with a shared history and shared future. We start creating a culture of stewardship and co-responsibility for our commons resources while at the same time defending our livelihoods.

The commons helps us recognize, elicit and strengthen these propensities. It challenges us to transcend the obsolete dualisms and mechanistic mindsets. It asks us to think about the world in more organic, holistic and long-term ways. We see that my personal unfolding depends upon the unfolding of others, and theirs upon mine. We see that we mutually affect and help each other as part of a larger, holistic social organism. Complexity theory has identified simple principles that govern the coevolution of species in complex ecosystems. The commons takes such lessons to heart and asserts that we humans co-evolve with and co-produce each other. We do not exist in grand isolation from our fellow human beings and nature. The myth of the "self-made man" that market culture celebrates is absurd – a self-congratulatory delusion that denies the critical role of family, community, networks, institutions and nature in making our world.

Many of the pathologies of the contemporary economy are built upon this deep substrate of erroneous language. Or more precisely, the elite guardians of the market/state find it useful to employ such misleading categories. The corporation in the US and many other nations, for example, likes to cast itself as a "private" entity that hovers above much of the real world and its problems. Its purpose is simply to minimize its costs, maximize its sales, and so earn profits for its investors. This is its institutional DNA. It is designed to ignore countless social and environmental harms (primarily described by economists as "externalities") and relentlessly pursue infinite growth.

And so it is that language of capitalism validates a certain set of purposes and power relationships, and projects them into the theaters of our minds. The delusions of endless growth and consumption are encoded into the very epistemology of our language and internalized by people. It is only in recent years that large masses of people have understood the alarming real-world consequences of this cultural model and way of thinking: a globally integrated economy dedicated to the proposition that humans must indefinitely exploit, monetize and financially abstract a finite set of natural resources (oil, minerals, forests, fisheries, water). The rise of Peak Oil and global warming (not to mention other ecosystem declines) suggest that this vision is a time-limited fantasy. Nature has real limits. The drama of the next decade will revolve around whether capitalism can begin to recognize and respect these inherent limits.

The premises of "democratic capitalism" extend to information and culture as well. But here, in order to wring maximum profit from intangibles (words, music, images), the logic is inverted. Instead of treating a finite resource, nature, as infinite and without price, here, the corporation demands that an essentially infinite resource, culture and information, be made finite and scarce. That is the chief purpose of extending the scope and terms of copyright and patent law – to make information and culture artificially scarce so that they can then be treated as private property and sold. This imperative has become all the more acute now that digital technologies have made the reproduction of information and creative works easy and essentially free, and in doing so undermined the customary business models that made books, film and music artificially scarce.

The commons – a vehicle for meeting everyone's basic needs in a roughly equitable way – is being annexed and disassembled to serve a global a market machine which treats nature as a brute commodity. Commoners become isolated individuals. Communities of commoners are splintered and reconstituted as armies of consumers and employees. The "unowned" resources of the commons are converted into the raw fodder for market production and sale – and after every last drop of it has been monetized, the inevitable wastes of the market are dumped back into the commons. Government is dispatched to "mop up" the "externalities," a task that is only irregularly fulfilled because it is so ancillary to neoliberal priorities.

The normal workings of The Economy require constant if not expanding appropriations of resources that morally or legally belong to everyone. The

Economy requires that all resources be transmuted into tradeable commodities. Enclosure is a sublimely insidious process. Somehow an act of dispossession and plunder must be reframed as a lawful, common-sense initiative to advance human progress. For example, the World Trade Organization, which purports to advance human development through free trade, is essentially a system for seizing non-market resources from communities, dispossessing people and exploiting fragile ecosystems with the full sanction of international and domestic law. This achievement requires an exceedingly complicated legal and technical apparatus, along with intellectual justifications and political support. Enclosure must be mystified through all sorts of propaganda, public relations and the co-optation of dissent. This process has been critical in the drive to privatize lifeforms, supplant biodiverse lands with crop monocultures, censor and control Internet content, seize groundwater supplies to create proprietary bottled water, appropriate indigenous knowledge and culture, and convert self-reproducing agricultural crops into sterile, proprietary seeds that must be bought again and again.

Through such processes, the very idea of "The Economy" has been constructed, complete with dualisms about what matters (things that bear prices or affect prices) and what doesn't (things that have intrinsic, qualitative, moral or subjective value). Over time, The Economy comes to be seen as a universal, ahistorical, entirely natural phenomenon, a fearsome Moloch that somehow preexists humanity and exists beyond anyone's control. This image begins to express the nightmare of enclosure that afflicts so much of the world – a world where natural ecological processes, communities and vernacular culture have no legal protection or cultural respect.

The commons as a generative paradigm

A major point of the commons (discourse), then, is to help us "get outside" of the dominant discourse of the market economy and help us represent different, more wholesome ways of being. It allows us to more clearly identify the value of inalienability – protection against the marketization of everything. Relationships with nature are not required to be economic, extractive and exploitative; they can be constructive and harmonious. For people of the global South, for whom the commons tends to be more of a lived, everyday reality than a metaphor, the language of the commons is the basis for a new vision of "development."

The commons can play this role because it describes a powerful value proposition that market economics ignores. Historically, the commons has often been regarded as a wasteland, a *res nullius*, a place having no owner and no value. Notwithstanding the long-standing smear of the commons as a "tragedy," the commons, properly understood, is in fact highly generative. It creates enormous stores of value. The "problem" is that this value cannot simply be collapsed into a single scale of commensurable, tradeable value – i.e., price – and it occurs through processes that are too subtle, qualitative and long-term for the market's mandarins to measure. The commons tends to express its bounty through living flows of social and ecological activity, not fixed, countable stocks of capital and inventory.

The generativity of commons stewardship, therefore, is not focused on building things or earning returns on investment, but rather on ensuring our livelihoods, the integrity of the community, the ongoing flows of value-creation, and their equitable distribution and responsible use. Commoners are diverse among themselves, and do not necessarily know in advance how to agree upon or achieve shared goals. The only practical answer, therefore, is to open up a space for robust dialogue and experimentation. There must be room for commoning – the social practices and traditions that enable people to discover, innovate and negotiate new ways of doing things for themselves. In order for the generativity of the commons to manifest itself, it needs the “open spaces” for bottom-up initiatives to occur in interaction with the resources at hand. In this way, citizenship and governance are blended and reconstituted.

Creating an architecture of law and policy to support the commons

For too long commons have been marginalized or ignored in public policy, forcing commoners to develop their own private-law “work-arounds” or sui generis legal regimes in order to establish collective legal rights. Examples include the General Public License for free software, which assures its access and use by anyone and land trusts, which establish tracts of land as commons to be enjoyed by all yet owned as private property (“property on the outside, commons on the inside,” as Carol M. Rose has put it).¹ The future of the commons would be much brighter if the state would begin to provide formal charters and legal doctrines to recognize the collective interests and rights of commoners. There is also a need to reinvent market structures so that the old, centralized corporate structures of capitalism do not dominate, and squeeze out the more locally responsive, socially mindful business alternatives (a trend that the Solidarity Economy movement has been stoutly resisting).

There is an inherent tension in seeding new sorts of commons initiatives, however, because they must often work within the existing system of law and policy, which risks a co-optation of the commons and the domestication of its innovations. Despite this real danger, commons initiatives need not lose their transformative, catalytic potential simply because they work “within the system.” Among commoners, there will invariably be debates about the strategic “purity” of commons-based initiatives, especially those that interact with the marketplace in new ways. Such scrutiny is important. Yet it may also highlight deeper philosophical tensions within the commons movement – namely, that some commoners prefer to have little or no intercourse with markets while others believe that their communities can better thrive if they interact with markets.

This is a creative tension that will never go away, nor should it. But the critical question for commoners to ask is, What is production for? Unlike market capitalism, which requires constant economic growth, the point of the commons is to propagate and extend a commons-based culture. The goal is to meet people’s

needs – and to reproduce and expand the Commons Sector. Throughout history, civilizations have always had a dominant organizational form. In tribal economies, gift exchange was dominant. In pre-capitalist societies such as feudalism, hierarchies prevailed and rewards were allocated on the basis of one’s social status. In our era of capitalism, the market is the primary system for allocating social status, wealth and opportunities for human development. Now that the severe limitations of the market system under capitalism have been made abundantly clear, the question we must confront is whether the commons can become the dominant social form. We believe it is entirely possible to create commons-based innovations that work within existing governance systems while helping bring about a new order.

We hope that the essays of this book encourage new explorations and initiatives in this direction. This is a rare moment in history in which old, fixed categories of thought are giving way to new possibilities. But any transition to a new paradigm will require that enough people “step into history” and make the new categories of the commons their own. Hope for the future lies in people creating their own distinctive forms of commoning throughout the world, and the gradual emergence and confluence of new social/economic practices.

Anthropologists, neurologists, geneticists and other scientists confirm the critical role that cooperation has played in the evolution of the human species. We are hard-wired to cooperate and participate in commons. One might even say that it is our destiny. While the commons may seem odd within the context of 21st Century market culture, it speaks to something buried deep within us. It prods us to deconstruct the oppressive political culture and consciousness that the market, state duopoly demands, and whispers of new possibilities that only we can actualize.

1 | Carol M. Rose, 1998, “The Several Futures of Property: Of Cyberspace and Folk Tales, Emission Trades and Ecosystems,” 83 *Minnesota Law Review* 129, 144.

*"The definition of insanity is doing the same thing over and over
and expecting it to come out different."*

- Attributed to Albert Einstein

PART ONE

THE COMMONS AS A NEW PARADIGM

My Rocky Road to the Commons

by Jacques Payson

"The Pyrenees, they are not all that high up - their outlines are gently curved, sharp ridges few and far between - and all the peaks are rounded. It seems like music frozen in place in this high country" (Kurt Tucholsky celebrated German journalist and author, 1937)

We are standing on the Col de Peyreget, where a small sign says we are 2,320 meters above sea level. Not all that high, but I am short of breath nonetheless. Presumably not because of the mountain, but because of gravity. I cannot see the rounded mountainside, either: they are dozing behind the morning haze. A scent of thyme and damp grass is in the air. Sheep bells are tinkling in the distance.

"There," I say, pointing down into the valley. She gazes into the deep.

"Can you see them?" I ask. "The sheep! Garrett Hardin's sheep."

She rolls her eyes.

"Garrett Hardin?" she replies. "Don't remind me of Garrett Hardin! I'm on vacation" - and begins to hike down the mountain. I watch her go and have to laugh.

When we met, I had never heard of Garrett Hardin or the herdsmen he describes who supposedly attempted to maximize their gain by herding more and more cattle on the pasture until it was ruined by overgrazing, the famous "tragedy of the commons."

"Commons?" I had no idea what that could be.

I glance back at the sheep and take a sip of water from my bottle. Then I follow her.

My perspective on the world has changed dramatically since our first conversations about the commons. Now I have a more nuanced idea of what they are and what they mean.

But getting to this point was a rocky road. In comparison, hiking up to the Col de Peyreget was a piece of cake. The difference between resources and commons was the most difficult part for me to understand. This learning process reminds me of that optical illusion, the image that you see either as two faces or as a vase. The dominating image seems to crowd the complementary contour out of our perception - until the light goes on! But then, it is easy to see both aspects. Isn't that remarkable? The commons concealed in misunderstandings, like the mountain ridges in the mist.

So, what are commons? A pasture where shepherds jointly graze their sheep? No? The social relationship that manages the access of the sheep to the pasture? At that point, I groaned and tore my hair. What was that supposed to be – a social relationship that sheep graze on?

The light went on when I considered an example of the commons that has little to do with politics and sheep: rock climbing!

I stop and listen. Looking up the rough rock face whose base we are hiking along. I can hear the clanging of the carabiners and the cads of the climbers pitting their strength against gravity.

Rock climbing used to be an extreme sport, but today it brings thousands of people to climbing gyms and walls of rock. The mountain and the climbable route are the resource. The active climbers are the commoners who have autonomously agreed on complicated sets of rules, codes of conduct and climbing grades. That was not a simple process, and certainly not without conflict. But today, their differences have been overcome. The climbers take care of the routes, provide for stable anchors that prevent dangerous falls, draw sketches of the routes and give them creative names. They also try to resolve conflicts with conservationists through consensus, which sometimes requires the support of the authorities.

There are no property rights or patents. On the contrary. The most accomplished climbers are constantly inventing new routes and inviting everybody to test their skills on them. An important rule in the process is, "Don't leave footsteps!" Allow future climbers to discover the route in the same condition in which you discovered it." Some of these routes are world-famous, for example *The Nose* on El Capitan in California's Yosemite National Park. Thousands of years from now, when the climbers will have long died out, these rock formations and some iron pitons will remain. But then, they will no longer be a commons, because the commons is the social relationship: the sport of rock climbing! Not the resource itself: the rock. No climbing, no commons. There is no commons without commoning!

My companion is a long way ahead and I would have to hurry to catch up with her. Instead, I stumble across the loose boulders, sunk in philosophical reflections. But the commons have opened my eyes. And how!

Today, I see commons everywhere. In every park where people are playing boules together, enjoying a glass of wine and talking. At the springs in Baktapur, where the Nepalese women form long lines with their water jugs, filling them with drinking water according to rules invisible to us. When I go fishing with my son or talk with doctors about satellite-based telemedicine that could help a physician in Central Africa use his British colleagues' expertise if – if only – we were to organize the use of this expertise in the form of a commons and not as a business



model. The kaleidoscope of the commons is colorful and the list of possibilities I can see grows longer and longer with every one of my thoughts.

Down in the valley, the sheep are bleating. As a rational being, Hardin wrote in 1968, each herdsman seeks to maximize his gain. As if the shepherd were dumber than the sheep. As if he and his colleagues were not able to reach agreement about rules that would ensure a sustainable way of using the pasture in the interest of all. How bizarre this short circuit in the brain seems to me today: it makes us blind to the fact that people do want to cooperate, provided other people do as well. The unfortunate image of the herdsman maximizing his gain blocks our view of the commons, just as the image of faces crowds out the reverse-image of the vase.

I remember a sentence I wrote almost twenty years ago in my doctoral dissertation: Ever since Charles Darwin postulated in 1871 that man and ape had descended from a common ancestor, man has been trying to define the principal difference between himself and the ape. At that time, it didn't occur to me that I could do so myself, but today the solution to this problem seems very simple to me. It is Broca's area, the region of the brain linked to speech production, which exists only in human beings. And language is the most important tool for cooperation. Any worm with its ventral (nervous) cord can compete, and it's just for a hole in the ground. But what sets humans apart from animals is the ability to consciously cooperate at the highest level of perfection.

Trying to catch up with my companion, I trip on a stone and land rudely on a thistle. There's a time for everything, I think, and sit down on the grass. This subject matter is complex, and I cannot solve it while I hike. There must be space for competition, too. Undivided attention, for example, is a fiercely contested good. When recognition and affection come into play, cooperation often ends abruptly. Compared with the problems in a relationship, the question as to how we could regulate our way of handling algorithms and melodies, recipes, literature and scientific insights, intellectual property, authors' rights as well as access to beaches and education is almost child's play. But who ever said it had to be simple?

Speaking of difficult! We had the toughest arguments about patents and copyright!

Not long ago, I would still ask, enraged, "Why should someone benefit from shamelessly copy and pasting a text of mine?"

Today I think, "Well, why not? As long as I'm acknowledged properly." As far as Tucholsky is concerned, I enjoy quoting him often – after all, his work is in the public domain by now, and thus saved from the burden of exploitation rights, which have been lifted.

"Saved from the mountains," he wrote in 1927, "saved from climbing and scaling the heights. A little flake is in my heart, born just now, embryonic, yearning for the Pyrenees."

Jacques Payson (Germany) is a neuroscientist and commons fan. Part of this story is illustrated on the blog <http://pyrenean.wordpress.com>

The Economy of Wastefulness: The Biology of the Commons

By Andreas Weber

There is an all-encompassing commons-economy which has been successful for billions of years: the biosphere. Its ecology is the terrestrial household of energy, matter, beings, relationships and meanings which contains any manmade economy and only allows for it to exist. Sunlight, oxygen, drinking water, climate, soil and energy – the products and processes of this household – also nourish the *Homo economicus* of our time who, despite all his technological and economical progress, still feeds on products of the biosphere.

I wish to argue that nature embodies the commons paradigm *par excellence*. With that definition I do not only mean that man and other beings have been living together according to commons principles for an overwhelming majority of time. My argument is more complex: I am convinced that ecological relations within nature follow the rules of the commons. Therefore, nature can provide us with a powerful methodology of the commons as a natural and social ecology. The goal of this chapter is to give a brief outline of this "existential commons ecology."

Liberalism as a hidden metaphysics of life

But which nature are we talking of? To analyze nature's household without the bias added by the liberalist metaphors of nature as capitalist marketplace we will have to reconsider the underlying ecology and economy of natural housekeeping step by step. Particularly, we will have to question the mainstream view of ecological interactions as competition and optimization processes between mechanical actors (or "genes") due to the pressure of external laws, e.g., selection. We will rather discover in nature a deep history of evolution towards more freedom, where the players are autonomous subjects bound together in mutual dependence. This idea, however, is in opposition to the current view of matter and information exchange in biological and economic theory.

In the last 200 years few models of reality have been influencing each other so strongly as the theory of natural evolution and the theory of man's household of goods and services. Both disciplines received their current shape in Victorian England, and both reciprocally borrowed and reapplied each other's key metaphors. Consequentially, social findings have been projected on to the natural cosmos and scientific knowledge, and in turn reapplied to socioeconomical

theories. Today both paradigms together form a bioeconomic metaphysics which does not so much deliver an objective description of the world as an assessment of civilization itself.

In this context it is important to notice that a political economist Thomas Robert Malthus, delivered the crucial cornerstone for the modern concept of biology as evolution. Malthus was obsessed by the idea of scarcity as explanation for social change – there would never be enough resources to feed a population which steadily multiplies. Charles Darwin, the biologist, adapted that piece of theory which had clearly derived from the observation of Victorian industrial society and applied it to a comprehensive theory of natural change and development. In its wake such concepts as "struggle for existence," "competition," "growth" and "optimization" tacitly became centerpieces of our self-understanding. Biological, technological, and social progress is brought forth by the sum of individual egoisms. In perennial competition, fit species (powerful corporations) exploit niches (markets) and multiply their survival rate (return margins) whereas weaker (less efficient) ones go extinct (bankrupt). The resulting metaphysics of economy and nature, however, are less an objective picture of the world than society's opinion about its own premises.

By this exchange of metaphors, economics came to see itself more and more as a "hard" natural science. It derived its models from biology and physics – leading all the way up to the mathematical concept of *Homo economicus*. This chimera – a machine-like egoist always seeking to maximize his utility – has become the hidden, but all-influencing model of humanity. Its shadow is still cast over newer psychological and game-theoretical approaches. Reciprocally, evolutionary biology also gained inspiration from economical models. The "selfish gene," e.g., is not much more but a *Homo economicus* mirrored back to biochemistry.¹

We can call this alliance between biology and economics an "economic ideology of nature." Today it reigns supreme over our understanding of man and world. It defines our embodied dimension (*Homo sapiens* as gene governed survival machine) as well as our social aspect (*Homo economicus* as egoistic maximizer of utility). The idea of universal competition unifying the natural and the social sphere is always rival and exclusive: "You have to eliminate as many competitors as possible and take the biggest piece of cake for yourself – a license to steal life from others."

Historically therefore, the reinvention of nature as an economical process of competition and optimization has been an organizing template for the enclosure of the commons. It has served as a mental fencing off which preceded the real dispossession and displacements and invented a context of justification.

The first transformations of common into private property took place in early modern times (1500–1800). This was the same epoch when our self-understanding increasingly was dominated by the dualist view of the French thinker René Descartes. Mind was no longer intimately entangled with body but rather a rational

1 | Concerning the concept of *Homo economicus*, see Friederike Habermann's essay on pp. 15–28.

2 | See Dawkins, Richard, 1990, *The Selfish Gene*, Oxford: Oxford University Press.

3 | For an explanation of these terms see Silke Helfrich's essay on pp. 61–67.

principle that stood above matter. Organisms, the whole diversity of nature, but also man's own body, were conceived of as automata made of subjectless and deterministic matter. This conviction is the refusal of any form of connectedness. The British philosopher Thomas Hobbes expanded on that idea and claimed an absolute separation of society and politics from nature. Nature is seen as the dominion of blind causes and effects and hence is no longer available as a point of reference for human self-understanding – in much the same way as the forest that the nobility had once shared with the peasants became exclusive property and was no longer accessible. The idea that the inhuman forces of optimization and selection dominate the realm of “pure things,” and hence also ourselves, closely parallels that historical exclusion. Both follow a basic model of estrangement and fencing off of living abundance. It is most noteworthy that the human sphere, which in this manner has been purified from nature, does not gain more freedom. Rather, society is also understood as a battle of brute and cruel forces – forces which have lost any connection with creative and lawful powers of existing-within-nature and embodied subjectivity. Hobbes' model of society, which remains influential in our time, shuns all connection with natural objects yet nonetheless becomes the embodiment of a world driven by brute force. It is built upon the idea of the “Leviathan,” the war of all against all as a “natural” state.

The enclosure of nature that had once been accessible by all reaches deeply into our mind and emotions. The inner wilderness of man increasingly has come under control. It has become difficult to understand oneself as an embodied part of a developing whole. Man-as-a-body did not belong any longer to the realm of beings, nor were his feelings about being alive to be taken seriously anymore. Rather, man's experiences and emotions became isolated from the rest of reality. This view culminates in an idea that today is quite common, that “nature” is not real at all but only exists as a mental concept, leaving no room to care for that which does not exist. The economic ideology of nature excluded any wilderness from our soul, unenclosed nature which accomplishes itself by itself and which is possessed by no being, made no sense to the liberal mind. No understanding of ourselves and of the world which reaches beyond the principles of competition and optimization can now claim any general validity. It is “nothing but” a nice illusion which “in reality” is only proof of the underlying forces in the struggle for existence. Love reduces itself to choice of the fittest mate; competition basically is a ruse in the competition for resources; and artistic expression shows the economy of discourses.

The enclosure of nature hence finally touches the *Homo sacer*,⁴¹ the innermost core of our embodied and feeling self, which contains the vulnerable existence in flesh and blood, the nude, emotional, animate existence. If we prefer to think of ourselves as apart from animate life, we have divorced ourselves from the realm of the living. As a final consequence, the enclosure of the commons manifests itself as biopolitics – the bid to own and monetize life.

Natural anticapitalism

A new economy can become a realistic alternative if we can challenge the mainstream biological view that sees life as an endless process of optimization. A new picture of life indeed is overdue – particularly in biology itself. Here, in fact, the Hobbsean paradigm of “war of all against all” is being overcome. The biological view of the organic world – and the picture of man within it – is changing from the idea of a battlefield between antagonistic survival-machines to that of an interplay of agents with goals and meanings. The organism starts to be seen as a subject who interprets external stimuli and genetic influences rather than being causally governed by them, and who negotiates his existence with others under conditions of limited competition and “weak causality.”

This shift in the axioms of “biological liberalism” leads to an emerging picture of the organic world as one in which freedom evolves. This is particularly evident in the following issues:

1. *Efficiency*: The biosphere is not efficient. Warm-blooded animals consume over 97 percent of their energy only to maintain their metabolism. Photosynthesis achieves a ridiculous efficiency rate of 7 percent. Fish, amphibians and insects have to lay millions of eggs only to allow for the survival of very few offspring. Instead of being efficient, nature is highly redundant. It compensates for possible loss through incredible wastefulness. Natural processes are not parsimonious but rather based on generosity and waste. The biosphere indeed is based on donation, but it is not reciprocal: the foundation of all biological work – solar energy – falls as a gift from heaven.

2. *Growth*: The biosphere does not grow. The quantity of biomass does not increase. The throughput does not expand – nature is running a steady-state-economy – that is, an economy where all relevant factors remain constant toward one another. Also, the number of species does not necessarily increase. It rises in some epochs and falls in others. The only dimension that really grows is the diversity of experiences, ways of feeling, modes of expression, variations of appearance, novelties of patterns and forms. Therefore, nature does not gain weight, but rather depth.

3. *Competition*: It has never been possible to prove that a new species arose from competition for a resource alone. Species are rather born by chance; they develop through unexpected mutations and the isolation of a group from the remainder of the population through new symbioses and cooperations (as our body cells have done, for example). Competition alone, e.g., for a limited nutrient, causes biological monotony: the dominance of relatively few species over an ecosystem.

4. *Scarcity*: The basic energetic resource of nature, sunlight, exists in abundance. A second crucial resource – the number of ecological relationships and new niches – has no upper limit. A high number of species and a variety of relations among them do not lead to sharper competition and dominance of a “fitter” species, but rather to a proliferation of relationships among species and thus to an increase in freedom, which is at the same time also an increase of mutual dependencies. The more that is wasted, the bigger the common wealth becomes.

41 See Agamben, Giorgio, 1998. *Homo sacer: Sovereign Power and Bare Life*. Stanford: Stanford University Press.

In ecosystems where only a few nutrients are freely available, as in the tropical rainforest, this limitation brings forth more niches and thus a higher overall diversity. This is the result of an increase of symbioses and reduced competition. Scarcity on a biological level does not lead to displacement, but to diversification.

§ **Property** There is no notion of property in the biosphere. An individual does not even possess his own body. Its matter changes permanently and continuously as it is replaced by oxygen, CO₂, and other inputs of energy and matter. But it is not only the physical and material not-self that is made possible through connection with other elements, it is the symbolic as well: language is brought forth by the community of speakers who are using it. Habits in a species are acquired by sharing them. In any of these dimensions the wilderness of the natural world – which has become and not been made, and which cannot be exclusively possessed by anybody – is necessary for the individual to develop its innermost identity. Individuality – physical and social/symbolic – thus can only emerge through a biological and symbol based commons.

Commons features of the biosphere

In a temperate forest there are different rules for flourishing than in a dry desert. Each ecosystem is the sum of many rules, interactions, and streams of matter, which share common principles but are locally unique. This strict locality follows the fact that living beings do not only use the commons provided by nature, but are physically and relationally a part of them. The individual's existence is inextricably linked to the existence of the overarching system. The quality of this system – its health (and beauty) is based on a precarious balance that has to be negotiated from moment to moment. It is a balance between too much autonomy of the individual and too much pressure for necessity exerted by the system. Flourishing ecosystems historically have developed a host of patterns of balance that lead to extraordinary refinement and high levels of aesthetic beauty. Hence the forms and beings of nature can be experienced as solutions that maintain a delicate balance in a complex society. The embodied solutions of individual-existence-in-connection are that special beauty of the living which fills most humans with the feeling of sense and belonging.

Nature as such is the paradigm of the commons. Nothing in it is subject to monopoly, everything is open source. The quintessence of the organic realm is not the selfish gene but the source code of genetic information lying open to all. Even the genes being patented today by biocorporations in truth are nonrival and nonexclusive in a biological sense. Only in being so are they able to provide biological and experiential novelty. DNA was only able to branch into so many species because everybody could use its code, tinker with it and derive the most meaningful combinations from it. This is the way *Homo sapiens* himself came about: by nature playing around with open source code. Some 20 percent of our genome alone is once viral genes that have been creatively recycled. As there is no property in nature – there is no waste. All waste byproducts are food. Every individual at death offers itself as a gift to be feasted upon by others, in the same

way. Shared is a term that is not just a metaphor, but is an aptly explained connection between giving and taking in which loss is the precondition for productivity.

In the ecological commons a multitude of different individuals and diverse species stand in various relationship to one another – competition and cooperation, partnership and predatorship, productivity and destruction. All those relations, however, follow one higher law: over the long run only behavior that allows for productivity of the whole ecosystem and that does not interrupt its self-productivity is amplified. The individual is able to realize itself only if the whole can realize itself. Ecological freedom obeys this form of necessity. The deeper the connections in the system become, the more creative niches it will afford for its individual members.

Commons as relations of the living

A thorough analysis of the economy of ecology can yield a powerful methodology of the commons. Natural processes are able to define a blueprint to transform our treatment of the embodied – material aspect of our existence into a culture of being alive. The term "commons" provides the binding element between the natural and the social or cultural worlds. To understand nature in its genuine quality as a commons opens the way to a novel understanding of ourselves – in our biological as well as in our social life.

If nature actually is a commons, it follows that the only possible way to achieve a productive relationship with it will be an economy of the commons. The self-realization of *Homo sapiens* can be best achieved in a system of common goods because such a culture – and thus any household or market system – is the species-specific realization of our own particular embodiment of being alive within a common system of other living subjects.

Although the deliberations that have led us to this point stem from a thorough analysis of biology, their results are not biologicistic – but rather the opposite. The thorough analysis here has revealed that the organic realm is the paradigm for the evolution of freedom. Therefore, even if we determine that the commons is the basic law of nature, the necessities resulting from that basic law are non-deterministic – contrary to the prevailing ideas of optimization and growth. The basic idea of the commons is rather grounded on an intricate understanding of *existence-in-connection* – a concept that at its core is a social process: a *re-creation* of self-realization through the prospering of the life/social systems she belongs to. To organize a community between humans and/or nonhuman agents according to the principles of the commons always means to increase individual freedom by enlarging the community's freedom. (See Table 1)

Contrary to what our dualistic culture supposes, reality is not divided into substances of matter (biophysics, deterministic approach) and culture/society (non-matter, indeterministic or mental, semiotic approach). Living reality rather depends on a precarious balance between autonomy and relatedness on all its levels. It is a creative process that produces rules for an increase of the whole

to mass production, churning out simple images with increasing speed and sloppiness – and pile up stacks of gummy bears to show off their success. Engrossed in their pictures, the “artists” take note of the “competition” – piles of gummy bears and slowly but surely lose interest in the details of their works [...] Then comes the last phase of the experiment. The rules of the game are changed yet again, with the explanation that the gummy bears are all gone. Suddenly, not only do the “businesspeople” lose their motivation, but so do the “artists.” Introducing and abolishing an incentive system has turned a highly motivated gang of little rascals into a mob in a foul mood.⁴

Experiments with adults yield similar results. For example, economist Uri Gneezy noticed that when his three-year-old daughter's kindergarten introduced a penalty for parents who were late picking up their children, it did not have the desired effect. So he and his colleague Aldo Rustichini looked into how many parents were late in ten other kindergartens in Haifa, Israel. Then, a penalty of ten shekels (roughly three US dollars) was introduced for parents who were at least ten minutes late. The result: On average, more than twice as many parents were late. And that did not change even when the penalty was abolished. What had previously been a social quality – not making the kindergarten teachers wait – had now been degraded to a quantity that spoke even less to the parents' sense of responsibility. To the parents, the fact that “being late” was available “for free” again may have seemed like an added bargain (Gneezy and Rustichini 2000).

Precht speaks of the “strange power of money,” as it destroys our “sense of ... individual qualities, of what is rare and ephemeral, of the moment, of intimacy and so on. Where money rules, everything seems drab and indifferent. Life seems completely objectified – to such an extent that everything besides money becomes irrelevant” (Precht 2010: 319).

Games of cooperation that economists conduct with adults also initially contradict the image of humanity as *Homo economicus* that is so fundamental to their discipline. Instead of showing that people always pursue their own self-interest, the games bear witness to people's tendency to be fair – but only until the first egoist steps in (Precht 2010: 394f).⁵ And it is no surprise that when compared with other students, business and economics students are the first to abandon cooperation and adopt uncooperative strategies, after all, they learn about *Homo economicus* day in and day out.

We are all part of the largest experiment of this kind: the modern monetary economy. It, too, is founded on *Homo economicus*, who is defined in the *Duden Dictionary of Foreign Words* (2005) as “a person guided exclusively by economic considerations of expedience.” A second definition describes the term as signifying “current-day man per se” – which implies, as mentioned above, egoism, competitiveness and a habit of reducing life to utility.

In his book *Homo Oeconomicus*, economist Gebhard Kirchgässner defends him as “not all that dislikable,” because he acts just as “disinterested and reasonable” as the priest and the Levite in the parable of the good Samaritan who saw the man who had fallen among robbers and walked past. Provided that he did not have a particular relationship to him, it made no difference to him whether his neighbor was all right or not (Kirchgässner 2000: 47). This is precisely the advantage of modern economic theory: “It assumes a realistic image of humanity and....does not claim that people become ‘better’ under different circumstances” (2000: 27). Precht comes to a different conclusion: “Strict and tough calculation of utility, ruthlessness and greed are not man's main driving forces, but the result of targeted breeding. One could call this process ‘the origin of egoism by capitalist selection,’ following Charles Darwin's famous principal work” (Precht 2010: 394).

For more than two decades, feminists have been discussing a poststructuralist approach that attempts to conceive in theoretical terms both of people's deep integration with their social context and their constant construction of themselves, thereby changing that very context. For this reason, our bodies and our emotions and empathy can only be imagined together with everything that leaves its mark on us, we are nonetheless more than a blank page that is an entirely passive object, inscribed by the societal discourse. We are surely not individuals who think and feel autonomously, but rather members of society with all our being (Habermann 2008).

Where, however, should empathy come from, if not from us as people? Insights from epigenetics demonstrate how our biology – including our genes, cannot be conceived of without environmental influences.⁶ Canadian physician and author Gabor Maté emphasizes that nobody can be separated from the surroundings he or she grew up in. The genetic argument permits one to refrain from calling the social, political or economic conditions into question by instead referring to a fundamental and unchangeable concept of human nature. Accordingly, our society, which is based on competition, falls victim to the myth that people are competitive, individualistic and self-interested by nature. On the contrary: only in a single respect should we speak of human nature, and that is the existence of certain human needs. “As human beings, we have a need for company and close contact, a need to be loved, connected, accepted and seen, to be accepted for what we are. If this need is fulfilled, we develop and become compassionate and cooperative individuals who have empathy for others.” But in our society, the opposite is frequently to be observed – which results in different traits of character.

Without presupposing such needs as essential and ahistorical, poststructuralist feminism also implies that if these needs are not fulfilled, they will manifest themselves in a subject's psyche in the form of melancholy. Hanna Meißner speaks of a “loss that cannot be mourned because one is not aware of it being a loss, as the life option that is lost or from which one is excluded cannot even be imagined as a potential option in the framework of the symbolic order” (Meißner 2008: 30).

4 | Concerning the relationship between nature and culture, see Andreas Weber's essay on *Zeitgeist* 6–12.

5 | Quote from the film, “*Zeitgeist – Moving Forward*,” 2011, at <http://www.youtube.com/watch?v=AQNkvqGkkQ>.

What this means for the quest for a happier society is obvious. Every time someone claims that there cannot be a better society or an economic model less strongly founded on self-interest because "that's how people are, after all," we can counter with Richard David Precht's words, "We are not born as egoists, we are made into them" (Precht 2010: 316).

According to Precht, the insight that material rewards spoil people's character has a deeply disturbing aspect. After all, our entire economic system is based on such exchanges. And if economics is the continuation of ethics by other means, as economist Karl Homann and others claim – what kind of ethics is it that causes tens of thousands of people to starve to death every day? They are the ones who did not have enough to offer in market exchanges.

As a consequence, the only way to achieve a more just society is to change the system in which Precht, too, presents as illusory. Social psychologist Harald Welzer rightly deems so-called *Realpolitik* as a "politics of illusion," if we consider the extent to which people have closed their eyes on the global societal catastrophes. In this respect, he contends, only utopian politics are realistic.

Retraining and sacralizing growth and other such concepts, actually pseudo-concepts from the past result in illusory realities – just as *Realpolitik* is in reality only the creation of an illusion of a status quo that no longer exists. That means that *Realpolitik* is currently politics of illusion, and that utopianism is realistic – because utopian action/utopian maxima of action are, after all, realistic inasmuch as they assume that we cannot simply go on as before, and there must be a very fundamental transformation, in fact not a transformation... in the context of existing practices, but of the framework itself of the practices themselves.⁶

Welzer responds to Precht's question as to radical social and ecological renewal by democratic means with a plea for changing "cultural practice" – as it is necessary to consider it political.⁷

For decades, feminists have identified local starting points for a different kind of economic system in the "dissident practices" (Carola Moeller) of everyday life. This does not mean that other spaces of political life are meaningless, yet it does mean that a cornerstone of this process is changing our daily practices in a way that is able to alter the specific framework for these practices. If we have understood that we humans exist only if we are interwoven with our environment, then we also understand that new horizons for thinking and acting emerge only in interplay with the changed environment, that is, with an altered material-economic way of life.

"We are amply shaped by society," says Robert Maurice Sapolsky, professor of neurology at Stanford University.⁸ Different large societies could be termed as individualistic or collectivist, and you get very different people in different mind

sets [...] coming along with that." And he warns: "[...] The more stratified a society is the fewer people you have as peers: the fewer people with whom you have symmetrical reciprocal relationships. Instead, all you have [...] is a world with a lot less altruism."⁹

Sapolsky uses the term *peer*. Commons-based peer production is the term that Harvard law professor Yochai Benkler uses to describe the way in which free software is generated – a phenomenon that the theory based on *Homo economicus* cannot explain.¹⁰

Only when reflecting later on my book *Halbinseln gegen den Strom. Anders leben und wirtschaften* (2009) in which I explore alternative ways of conducting economic activities in German-speaking countries, did it become clear to me that these are basically also the principles that can be detected in the more recent initiatives as well. I use the somewhat less cumbersome term *ecommons*, yet Sapolsky's idea makes me wonder whether *peer* might not be too important to be left out. For – and this is the decisive point – "structural communarity" (Stefan Meretz) emerges from these principles. It supports cooperation instead of competition and opens up different ways for people to develop.¹¹

These "peninsulas" (German: *Halbinseln*) are spaces (actual territorial ones or merely social ones) where, to a certain extent, people create a different reality for themselves and try to experiment where such a road could lead them. They are spaces that permit people to develop in a different way because a different set of things are taken for granted there.¹² However, in our current state of being, we cannot know what a society inspired by such principles could look like. Exchange, competition and having to assert ourselves have left their mark on us. We need new experiences during which we change and with which we can gain new insights. In this sense the most realistic and frangible truth at the moment seems to be: the world shapes us, and we shape the world.

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8. *Zeitgeist – Moving Forward*, cf. footnote 5.

9. On this subject see also the contributions by Christian Siefkes (pp. 289–314) and Michel Bauwens (pp. 323–330) in this volume.

10. Particularly as an examination of power relationships – be they sexist, racist or otherwise – shows that they always imply and presuppose the construction of "non-peers," or "others" as a foundation, cf. Habermann 2008.

11. I have elaborated on these principles elsewhere (Habermann 2011).

6) Harald Welzer at the Utopia Konferenz 2009. <http://www.youtube.com/watch?v=5LX...>

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Resilience Thinking

By Rob Hopkins

Resilience: the capacity of a system to absorb disturbance and reorganize while undergoing change, so as to retain essentially the same function, structure, identity and feedbacks

The UK Low Carbon Transition Plan, published by the UK government in 2010, was a bold and powerful statement of intent for a low-carbon economy in the UK (HMG 2009). It stated that by 2020 there would be a five-fold increase in wind generation, feed-in tariffs for domestic energy generation, and an unprecedented scheme to retrofit every house in the country for energy efficiency. I hesitate to criticize creative steps in the right direction taken by government. There is, however, a key flaw in the document, which also appears in much of the wider societal thinking about climate change and the social response it requires. It is the attempt to address the problem without also addressing the key issue of resilience.

"Resilience," I would argue, is a vitally important additional dimension to the concept of sustainability, or to its oxymoronic offspring, "sustainable development." Without resilience, the terms do not adequately address the nature of the challenge we face. Let's take a supermarket as an example. It is possible to increase its sustainability and to reduce its carbon emissions by using less packaging, putting photovoltaics on the roof and installing more energy-efficient fridges. It could stock mostly organic produce and have biodegradable packaging on all its products.

However, resilience thinking would argue that the closure of local food shops and networks that result from the opening of the supermarket – as well as the fact that the store itself only contains two days' worth of food at any moment, the majority of which has been transported great distances – has massively reduced the resilience of community food security while increasing its vulnerability to oil disruptions. Similarly, from a sustainability perspective, installing wind power is highly desirable, but at the moment, most of that infrastructure is installed by large wind energy companies, and the communities that live nearby reap little benefit from them. Were those communities to own that infrastructure and benefit directly from it, even in part, it would greatly increase the resilience of those economies.

The concept of resilience emerged from within the ecological sciences, through the work of pioneers such as C.S. Holling (1973), and more recently academics such

as Neil Adger (2009), Brian Walker and David Salt (2006). It is a way of looking at why some systems collapse when they encounter shock, and some don't. The insights gleaned now offer a very useful overview for determining how systems can adapt and thrive in changing circumstances.

Resilience at the community level depends upon:

- **Diversity:** a broader base of livelihoods, land use, enterprise and energy systems than at present;
- **Modularity:** an increased self-reliance (but not necessarily self-sufficiency) with "surge protectors" for the local economy, such as local food production and decentralized energy systems; and
- **Tighter feedback loops:** bringing the results of our actions closer to home, so that we cannot ignore them.

Local food economies model this beautifully. The industrial food system has hugely reduced the number of people working in farming, increased its oil dependency, and reduced diversity in terms of biodiversity, the diversity of work opportunities, and the diversity of land uses. Also, because our food is grown at greater and greater distances from our communities, we have less and less concern or control over the impacts of its production. Local food – the reconnecting of communities to their local farmers, more seasonal diets, and more community involvement in how farms are run and what they grow – greatly increases community resilience.

In a report called "Resilient Nation" prepared by Charlie Edwards for the UK think tank DE MOS, the author raised the question, "Resilient to what?" (Edwards 2009). Are we building resilience in the face of peak oil and climate change, or of terrorism and pandemics? Edwards listed the things he felt we should be preparing resilience to: climate change, floods, pandemics, energy shortages, nuclear attacks, terrorism and a few others.

The UK government Cabinet Office runs "Regional Resilience Teams" which are charged with creating plans for the emergency preparedness of each region. Yet the main focus of this will most likely be on terrorism and pandemics. This however flies in the face of a recent report by the World Economic Forum (2011) which identified the key risks facing the global economy in terms of likelihood of occurrence and potential economic impact. The three leading challenges, it concluded, are economic crisis, energy price volatility and climate change – the very three challenges that Transition Network has been emphasizing for the past five years. While it is clearly not an either/or situation, peak oil and climate change are so destabilizing that we must give them precedence; the solutions they require are markedly different from those needed for terrorism or pandemics.

Therefore in the Transition movement we have argued that we need to base thinking about resilience primarily on both mitigation and adaptation when it comes to climate change, and more recently to the economic troubles affecting us. Planning for resilience without these concerns at the forefront runs a high risk of missing the point. Indeed, we need a different take on the notion of resilience – one that is less about simple survival when something extremely ghastly occurs than about seeing resilience as a positive, constructive process.

But what would this kind of resilience thinking look like in practice? If breaking our dependency on cheap fossil fuels and creating more economic resilience were to be seen as an opportunity then our thinking shifts. Making our communities more resilient becomes a historic opportunity to rethink how it feeds, houses and heats itself. The whole idea of "localization as economic development" comes into its own. Localization by itself is not necessarily something that builds resilience. You could imagine a feudal, patriarchal form of localization, for example that might have a lower carbon footprint but would also stifle diversity, creativity and innovation and not build resilience in many of the ways outlined above.

DuPuis and Goodman (2005) distinguish between "reflexive" and "unreflexive" localization. Unreflexive localization, they argue, "can have two major negative consequences. First it can deny the politics of the local, with potentially problematic social justice consequences. Second, it can lead to proposed solutions, based on alternative standards of purity and perfection, that are vulnerable to corporate cooptation." Localization, in the sense Transition talks about it, is a "reflexive localization," one that would build resilience by focusing on social inclusion, economic innovation, community ownership and a valuing of entrepreneurship and diversity.

These two concepts, resilience and localization, are central and vital ideas in moving forward. The Transition movement has catalyzed a hugely insightful "dry run" of thinking through what all this would look like in practice. It is the practical embodiment of Tom Homer-Dixon's assertion, in *The Upside of Down*, that "if we want to thrive, we need to move from a growth imperative to a resilience imperative" (Homer-Dixon 2007). But the reality we live in is different: the UK government's Department of Food, Environment and Rural Affairs (DEFRA) in 2006 argued that the just in time distribution model on which our food system depends actually *increases* our resilience, a position which is still largely in place. In 2011 this is still the official government position.

What does a resilient community look like?

Creating resilience takes time, resources and proactive and creative design. Often, sustainability thinking doesn't question the notion that higher rates of consumption lead to individual happiness, it simply focuses rather on low-carbon ways of making the same consumer goods. Yet as we enter the world of resource constraints, we will need to link satisfaction and happiness to other less tangible things like community, meaningful work, skills and friendships.

When I give talks on this subject, there are always some who interpret the concept of increasing resilience in the West as something that will necessarily lead to increased impoverishment in the developing world. But the developing world is not likely to be lifted out of poverty by continuing to dismantle its own food resilience and becoming dependent on the fluctuations, insecurities and energy vulnerabilities of the globalized economy.⁵ Amartya Sen has shown that famine and

5 | See, for instance, the essays by PV. Satbeesh on GMO seeds on pp. 141-146 and by Liz Alden Wily on land grabs on pp. 132-140.

inequality exist there from the way which food is produced and distributed, and from food shortage.

But even that analysis now needs to be revisited from a "resilience" perspective. In fact, tying developing-world food producers into the globalized system leads to their exposure to both food and money shortages, and leads to their becoming increasingly dependent on global trade, which is the ultimate source of the cheap oil, something we can no longer rely on. Is the way out of poverty really an increasing reliance on the utterly unreliable?

Resilience thinking means that rather than communities meeting each other as weak and powerless, or as accidental victims of a global system, they would become skilled, abundantly productive, self-reliant and resilient communities. It is a very different quality of relationship, and one that could be hugely beneficial to both.

If you were to step outside your front door today and ask the first ten people you met what your town or city might look like in ten years' time if it began today to cut its emissions by 9 percent a year, I imagine most people would say something between how it looked in the 1950s and some science-fiction future in which society has collapsed and is living in its wreckage. We have a paucity of stories that articulate what a lower-energy world and what resilient communities might sound like, smell like, feel like and look like. It is hard, but important, to be able to articulate a vision of this world so enticing that people leap out of bed every morning and put their shoulders to the wheel of making it happen.

Resilience thinking can inspire a degree of creative thinking that might actually take us closer to long-term solutions. Resilient solutions to climate change might include community-owned energy companies that install renewable energy systems; the building of highly energy-efficient homes that use mainly local materials (clay, straw, hemp); the installation of a range of urban food production models; and the re-linking of farmers with their local markets. By seeing resilience as a key ingredient of the strategies and approaches that will enable communities to thrive beyond today's economic turmoil, huge creativity, reskilling and entrepreneurship are unleashed.

The Scottish government is using its Climate Challenge Fund to fund Transition Scotland Support, seeing Transition initiatives as a key component of the country's push on climate change. (Thanks also to that fund, a number of Transition initiatives have received substantial financial support. For example, Transition Farnes received £154,000 and has become a real force for local resilience building.) In England, Somerset and Gloucestershire County Councils have both passed resolutions committing themselves to support local Transition initiatives, and many Transition initiatives are forming very productive working partnerships with their local councils. What interpretation these responses to the local level preparation process for the coming age of cheap oil are either beset by an enormous crisis, or as tremendous opportunities.

It is clear, as Jonathon Porritt argues, that attempting to get out of the current recession with the thinking that got us into it in the first place (unregulated banking, high levels of debt, over-carbon, festering inequalities) is a situation that we simply cannot win. Porritt writes: "A tried-and-true man who works as a systems

consultant in the Pacific Northwest talks of a meeting he had with a leading local authority there. Having read their development plan for the next twenty years, he told them, "Your Plan is based on three things: building cars, building airplanes and the financial services sector. Do you have anything else up your sleeves?" As U.S. blogger and commentator John Michael Greer says, we're in danger of turning what could still be a soluble problem into an insoluble predicament. Transition is an exploration of what we need to have "up those sleeves."

Cultivating inner growth to match external transformations

Resilience is not just an outer process, it is also an inner one, a personal transformation of becoming more flexible, robust and skilled. If we imagine that Transition on the scale being discussed above will happen purely as an external material process of solar panels and electric cars – one that doesn't require any growth in our abilities to communicate with each other, support each other through uncertain times and to build our own personal resilience – then we are missing a large part of the picture. Transition initiatives try to promote the "interior" changes that we need by offering skills-sharing, building social networks and creating a shared sense of this being a historic opportunity to build the world anew.

Navigating a successful way through climate change and peak oil will require a journey of such bravery, commitment and vision that future generations will doubtless tell stories and sing great songs about it. But as with any journey, having a clear idea of where you are headed and the resources that you have at your disposal is essential in order to maximize our chances of success. If we leave resilience thinking out, we may well end up an extremely long way from where we initially thought we were headed.

Recommendations for resilience

- Grow food everywhere
- Ask "how would this [development, business, community] function if oil cost \$200 a barrel?"
- Underpin new developments of energy, building or food, with the principle of community ownership and management.
- Identify key local needs and how they can be met more locally
- Involve everyone
- Tell a powerful story. This is a cultural process, not an environmental one.

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Institutions and Trust in Commons: Dealing with Social Dilemmas

by Martin Beckenkamp

From a game-theoretic point of view, commons represent both a chance and a problem. Game theory is a mathematical tool that allows us to analyze decision-making in situations with social interdependencies such as sports, where a team has to decide either to play defensively or offensively in a match against another team, or economic situations, where companies have to decide whether to enter into partnerships or do business by themselves. From this perspective, commons provide win-win opportunities. On the other hand, these opportunities may disappear if the players try to maximize their own narrow self-interests. In the latter case, the common welfare is not achieved: the gain of a single actor is allowed to thwart potentially greater gains for the entire community. This tension helps explain why commons are often called a social dilemma.

Trust is an important component of cooperation in the commons because commons are extremely vulnerable. As Elinor Ostrom put it in her 2009 Nobel Prize lecture: "The updated theoretical assumptions of learning and norm-adopting individuals can be used as the foundation for understanding how individuals may gain increased levels of trust in others, leading to more cooperation and higher benefits with feedback mechanisms that reinforce positive or negative learning. It is not only that individuals adopt norms but also that the structure of the situation generates sufficient information about the likely behavior of others to be trustworthy reciprocators who will bear their share of the costs of overcoming a dilemma."

Trust can often be achieved in small groups, where people know each other, because informal norms (and feelings of guilt and shame in cases of defection) are sufficient to stabilize the common welfare. But what about the cases in which groups become sufficiently large and people do not know each other?

In such cases, institutional structures are extremely important for the maintenance of trust. The history of trade gives some examples of institutions that were invented over the centuries in order to enable investors to benefit while preventing trickery and piracy. In many cases, however, institutions are used to establish and consolidate the power of private interests that do not care about the collective interest of all. It can well be argued that many steps of this long history of trade are mirrored in modern commons and online platforms like eBay (which initially was a commons). Many modern commons not only mirror or reinvent traditional commons, they pioneer new institutional arrangements for building

trust and cooperation. Open source software projects and Wikipedia are prominent examples.

In modern digital commons, often a small community starts out enthusiastically with great trust among its members. But after some time and considerable growth, instances of criminality or vandalism may occur. When the first defections (or misunderstandings about presumed defections) arise, the whole system is endangered. Solutions about how to handle defections have to be found. On one hand, sanctions have to be strong enough that they can credibly threaten those who intend to defect; on the other hand, they cannot be so strong as to signal general mistrust of the whole community, which has succeeded in cooperating at least some of the time. It is not easy to find benevolent and strong solutions, which is why many commons fail.

However, commons can be successfully stabilized if they adhere to key design principles, according to Elinor Ostrom's landmark research (1990).¹ A closer look at seven of her eight design principles shows that they fulfill two requirements mentioned earlier: strength and benevolence. Ostrom identified commons as needing (among other things) clear boundaries that separate members and non-members, the adaptation of rules to local conditions and needs, the involvement of the members in decision-making, and effective monitoring by members and graduated sanctions against rule breakers.

The design principles for effective self-governance in a commons are somehow dialectic because they recognize the necessity of institutional strength and authority while also recognizing the harm of top-down directives and outside intervention. The same dialectic can be found with respect to benevolence in a commons. The starting point is the conviction that people are willing to cooperate, but this conviction is not blindly applied. Instead, the commons recognizes that people potentially may defect, and appropriate safeguards are thus adopted.

These considerations may seem to be simple at first glance. However, trust is not only a psychological phenomenon between persons; it is equally an institutional phenomenon. Well-designed institutions foster personal trust, and inadequate institutions may stifle or even destroy personal trust. The "interface" between the social psychology of commons and the functionality of institutions is therefore extremely important. It is analogous to the human-computer interface, which may be more or less ergonomic.

Poorly designed institutions may be functional in principle, but the assertion of top-down authority may provoke resistance to perceived threats to freedom ("reactance" *sensu* Brehm 1966). Conversely, too little structural authority and too much benevolence may allow conflicts and defections to escalate, ultimately destroying the commons. Ostrom gives examples of village commons that failed because they did not have clear rules for the distribution of crops from the commons to individual offsprings (as opposed to distribution to families).

To put it bluntly as a first key insight: controls and sanctions are necessary components to protect the integrity of the commons.

From my point of view it is important that the members of the commons have

a structural or systemic insight into the game-theoretic social dilemmas of commons. They should be aware that there is a potentially tremendous win-win situation, but they should also recognize that any win-win situation is extremely fragile and requires protection against defections.

The history of many failed commons demonstrates that stakeholders often do not see the potential win-win of collective action. They fail to appreciate scientific evidence and political analyses that say, "Take less and you will have more." They perceive that they will be better off if they defect – and indeed, that a failure to defect could jeopardize their survival, as in cases of very poor fishermen who desperately need food.

This leads to a second key insight: Commons can be successfully maintained only if stakeholders have substantial insight into a potential win-win constellation.

This is not only a cognitive problem, but also a problem of emotionally feeling the relevance of commoning as a solution for their circumstances.

Some history of modern commons, like open source projects, started with the fascination about the win-win that the community achieves through collaboration. For instance, Wikipedia started with some enthusiasm that "we," i.e., anybody in the world who wants to participate, "write our encyclopedia." In this case there was no lack of psychological commitment to a potential win-win, but there was a reluctance to accept certain institutional structures or impose sanctions and controls. But this reluctance gradually disappeared following increasing vandalism of the website and cheating in editorial submissions, e.g., self-serving content. At first glance, the idea of rules and sanctions may seem to contradict the idea of an open source project. In fact, such things are what guarantee its survival. Controls and sanctions are a necessary component of successful commons.

The point of rules, sanctions and member participation is to engender trust, a social phenomenon that is both psychological and institutional. Understanding and designing successful commons requires a keen consideration of the interplay between psychology and institutions, or what might be called "institutional psychology."

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1 | For the full set of design principles, see essay by Ryan T. Conway on pp. 161–168 of this book.

The Structural Communalities of the Commons

By Stefan Meretz

The commons are as varied as life itself – and yet everyone involved with them shares common convictions. If we wish to understand these convictions, we must realize what commons mean in a practical sense: what their function is and always has been. That in turn includes that we concern ourselves with people. After all, commons or common goods are precisely not merely “goods,” but a social practice that generates, uses and preserves common resources and products. In other words: it is about the practice of commons, or commoning, and therefore also about us. The debate about the commons is also a debate about images of humanity. So let us take a step back and begin with the general question about living conditions.

Living conditions do not simply exist; instead, human beings actively produce them. In so doing, every generation stands on the shoulders of its forebears. Creating something new and handing down to future generations that which had been created before – and if possible, improved – has been part of human activity since time immemorial. The historical forms in which this occurred, however, have changed and continued to change. Only very recently, the market economy and a market economy. Although markets have existed for millennia, their function was not as central as they have become in contemporary capitalism, where they set the tone. They determine the rules of global trade. They organize interactions between producers and consumers across the world. Some observers believe they can recognize practices of the commons even in markets. After all, they say, markets are also about using resources jointly, and according to rules that enable markets to function in as unrestricted and unmanipulated ways as possible. However, markets are not commons, and it is worth understanding why.

Although markets are products of human action, their production is also controlled by markets, not by human action. It is no coincidence that markets are spoken of as if they were active subjects. We can read about what the markets are “doing” every day in the business pages. Markets decide, prefer and punish. They are nervous, lose trust or react cautiously. Our actions take place under the direction of the markets, not the other way around. Even a brief look at the rules mentioned above makes that clear. Rules issued by governments first recognize the basic principles of markets, but these rules function only as “add-ons” that are supposed to guide the effects of the markets in one direction or the other.

One direction may mean restricting the effects of the market so as to attain specific social goals. Viewed in this light, the supposedly alternative concept of a centrally planned economy turns out to be nothing more than a radical variant of guiding markets. The other direction can mean designing rules so that market mechanisms can flourish, in the hope that everyone is better off in the end if individuals pursue their own material self-interest. The various schools of economic thought reflect the different directions. They all take for granted the assumption that markets work, and that what matters is optimizing how they work. A common feature is that none of these standard schools of thought question markets themselves. That is why markets are at times described as “second nature” (Hahm 2010) – a manifestation of nature and its laws that cannot be called into question, but only applied.

The habit of treating markets, and therefore also the economy as quasi-natural beings prompted economist Karl Polanyi to speak of a reversal of the relationship between the social and the economic: “Instead of economy being embedded in social relations, social relations are embedded in the economic system” (Polanyi 1957). Before the onset of capitalism, only religious ritual acts were seen as having a life of their own in this way. The attitude was, “We cannot regulate god or the market, we can only attempt to secure their goodwill, perhaps plead or at times outwit them, but we can never get them under control.” In the case of markets, it is the economic augurs of all kinds who take on the task of fathoming divine will. They are interpreters of the inevitable.

Markets are not commons – and vice versa. The fundamental principle of the commons is that the people who create the commons also create the rules for themselves. But are people able to do so? Isn't it better to trust in a mechanism that may be invisible and impersonal, but that is also generally valid, rather than trying to formulate and negotiate rules oneself? Now we are at the core of the differing concepts of humanity: the market position assumes *Homo economicus* individuals maximizing their utility.¹ These are isolated people who at first think only of themselves and their own utility. Only by trading on the market do they become social creatures.

Now, it is not these isolated individuals who determine their social relations. As we saw above, they give themselves up to the workings of the markets, trying to derive benefits from them. To make it abundantly clear: isolated individuals submit to an anonymous power that is not their own by joining it and internalizing its logic. They then have the opportunity to create and confirm their individuality by means of consumption. Consumption is also the medium in which social life takes place. In other words, markets are not only places of distribution, they are places where people connect and develop identities. As consumption does not create true communality, and as many people feel isolated even in a group, the only way out of this dilemma is more consumption. Thus, consumption creates more and more consumption, which matches the producers' interests to sell more and more to consumers. It also perfectly serves the necessity of the capitalist economy

1 | See essay by Friederike Habermann on pp. 13–18.

to keep growing. However, consumers can never "buy our way out" of their social isolation. Markets are based on and continuously create structural isolation.

Structural isolation does not mean that we do not come together or cooperate. Yet in markets, cooperation always has the bitter flavor of competition as well.² We cooperate so that we can hold our ground better in competitive situations. With the underlying necessity of competition, any cooperation on one side implies exclusion on the other. One company's success is another company's failure. One country's export surplus is another's trade deficit. One person's success in applying for a job means rejection of all the other candidates. One person's green card means another person's deportation. It is this aspect of markets which I call structural exclusion. Both aspects, structural isolation and exclusion, permeate our actions, thoughts and feelings like a gossamer web. They determine what people consider normal in everyday life. If a fish swims in endless circles in its bowl and has learned not to bump into the glass, seemingly automatically, it might falsely suppose it is enjoying the freedom of the ocean. If we are to withstand structural isolation and exclusion, we need places and forms of compensation. Besides consumption, which we have already mentioned, families and other social relationships play a central role here. Time and again, we can observe that people who lose their social relationships quickly end up in a situation of real isolation and exclusion.

Structural isolation and exclusion entail another type of behavior, one I call structural irresponsibility. Hardly anyone wants to marginalize others, hardly anyone wants their own advantage to be paid for by others – yet this still takes place. Isolation and separateness in markets also mean that we cannot grasp the consequences of a purchase. Perhaps we have heard about people in the Congo working under extreme and inhumane conditions to extract coltan, from which tantalum for producing cellphones is extracted. But do we do without cellphones for this reason? And we have read about t-shirts being produced with child labor, but do we pay attention every time we buy one? Or environmental pollution caused by aluminum production – do we even know which products contain aluminum?

There are only a few of countless examples that show that it is virtually impossible to exercise personal responsibility under market conditions. Short of massive boycotts or public organizing, consumer purchases cannot alter the labor conditions and environmental effects of production, in this respect, money is an extremely poor means of communication. All of our after-the-fact attempts to contain the harmful consequences of market activity amount to a never-ending task, one that often fails, sometimes colossally – for instance, in limiting global CO₂ emissions.

But that is not the only option, as the commons demonstrate. Here, people are connected to one another. They use common resources, devise rules to sustain or increase them, and find the social forms that fit best. The starting point is always the needs of the people involved, and those needs are never the same. In a commons, the implicit model of humanity is not about individuals' abstract equality, but rather their concrete uniqueness. People participate actively in the

commons process with their rich individuality. Thus, the following is clear: if both the resources and the products are different, and if the people involved remain special individuals, then uniform rules cannot work. But that is not a problem in a commons because, in contrast to the market, the rules of a commons are made by the commoners themselves. It is no simple task to establish workable rules, and they may fail, but there are countless commons that do work, provided that certain conditions for success are taken into account.

Self-organization works if it is in fact self-determined. For this reason, an important aspect during the rule-making process is taking the participants' different needs into account – be it in form of consensus or compromise. It is critical that people feel a sense of fairness. Fairness is not the same thing as formal justice. It describes agreements that nobody feels they need intervene against. That, too, is different in the case of markets. Here, there is a system of equivalent trading that is formally just, because in an ideal market, assets of the same economic value change hands. But first, this holds only on average; individual cases can be unjust or even fraudulent.

Let us recall. People who maximize their own benefit do so at other people's expense, and those other people have to bear the burden. Second, equivalent trading means that different productivities may be expressed in the same prices, but in real terms, in different amounts of effort necessary to achieve the same price. Developing countries have to work much harder than industrialized ones for the same monetary yield. Is that fair? No. The market ignores differences; commons take them into account. What is more, the market pushes differences aside; commons thrive on them. If a few varieties of rice obtain the highest profit, then all other varieties of rice are displaced from the market. Participants in the commons, in contrast, are aware that diversity is not a flaw – an impediment to "maximizing value" – but a positive quality. It means more creativity, more variety, more opportunities for learning, a better quality of life.

Self-organization can fail. It is often unsuccessful if alien logic creeps into practices of the commons, and that can occur in very different ways. For example, if equal portions of a finite resource are made available for the people involved to use (formally just), then it may well be that individuals feel this arrangement to be unfair. This may be the case if the resource is of lower quality or if the needs of the people involved differ for reasons made transparent. Formally equal distribution must be augmented by additional criteria that are to be taken into account until everyone feels things are fair.

As soon as fairness is neglected, the danger arises that individual strategies for maximizing utility prevail. Then, market thinking enters into the commons. If one person begins to push through his or her individual goals at other people's expense, fairness is undermined to an ever greater degree. Others respond in kind, a downward spiral sets in, and in the end, self-organization fails. Market ideologues are aware of this effect and occasionally employ it in order to destroy commons. For example, in Peru (and elsewhere) the proposal was made to divide up land that had previously been used jointly and to distribute it to the indigenous population with individual titles of ownership – formally just, of course. Members of

21 See essay by Michel Bauwens on pp. 375–378.

That would be the beginning of a downward spiral, a development we know well. The company that lowers wages faster than others generates more jobs. The one that cuts benefits most can obtain credit in order to survive. That is the logic of the markets, where most people end up losing, and even the winners cannot be sure whether they themselves might be among the losers tomorrow. We can establish commons and their structural communality, inclusion and generation of responsibility on the part of their participants only in opposition to the logic of exclusion. That is never easy, but it is worth the effort.

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The Logic of the Commons & the Market A Shorthand Comparison of Their Core Beliefs

By Silke Helfrich

	The Market Paradigm	The Commons Paradigm
Knowledge	Individual	Collective
Strategy	Competition	Cooperation
Idea of the individual	Atomistic	Relational
Human relationships to nature and other humans	Instrumental	Relational
Change agents	Individual	Collective
Power	Individual	Collective
Core questions	How to win?	How to live?
GOVERNANCE		
Decision making	Individual	Collective
Decision principle	Profit	Common good

society have been expelled not only from the law but also from the self-proclaimed scientific discourse of economics.

Distributive justice thus became a matter of politics to be dealt with (if at all) by State institutions of public law and by regulation. The birth of the Welfare State in the early 20th Century was considered as an exceptional intervention into the market order by regulation mainly through taxes, with the specific aim to guarantee some social justice to the weaker members of society. In the West, since then, social justice was never able to capture again the core of rights discourse, and consequently has remained at the mercy of fiscal crisis: no money, no social rights! (Matten & Nicola 2006).

The concept of the commons can provide exactly the necessary tools, both legally and politically, to address the incremental marginalization of social justice. Being outside of the State/Market duopoly, the commons, as an institutional framework, presents an alternative legal paradigm, providing for more equitable distribution of resources. If properly theorized and politically perceived, the Commons can serve the crucial function of reintroducing social justice into the core of the legal and economic discourse by empowering the people to direct action.

Seeing the commons

The current vision presents the opposition between "the public" (the domain of the government) and "the private" (the domain of the market and of private property) as exhausting all the range of possibilities in a sort of zero-sum game. This gridlocked opposition is a product of the modernist tradition still dominant today in law and in economics. It hides the commons from the public vision.

The commons provide services that are often taken for granted by their users: many of those who benefit from the commons do not take into account their intrinsic value, only acknowledging it once the commons are destroyed and substitutes need to be found. To some extent, the commons are similar to household work, never noticed when the work is being done. Only when no one is there to do the dishes, you notice its value. In other words you don't miss something until it is gone. An example is the role served by mangroves in coastal regions. When making development decisions, people take their existence for granted and simply do not consider their important role in protecting coastal villages from tsunami waves. Only when a tsunami hits, destroying villages, does the value of such vegetation becomes apparent (Brown 2009). It would be highly expensive to build a similar, artificial barrier.

Seeing the commons and fully appreciating their role in the ecology of life on earth is politically crucial and an absolute necessity for any serious scholarly endeavor. The commons cannot be circumscribed for purposes of analysis: they claim a fully holistic approach. This is why dominant social sciences, having internalized the zero-sum vision of market and government, are ill-equipped to grapple with the issue.

It could be said that the commons disappear as a result of their structural incompatibility with the deepest aspects of the Western "legality," a legality that is

founded in the universalizing combination of individualism with the State-private property dichotomy. Centuries before the birth of the modern State, in ancient Rome, the early clans routinely extended their landholdings by usurping the commons. Engels describes the privatization of the commons as the most fundamental economic pattern of European development. Thus Western law has served a very important role in destroying the commons, just not protecting them. This still seems to be the pattern of development in cognitive capitalism (Boyle 2004): think about prosecution of peer-to-peer exchange on the Internet.

But it has always been problematic for commoners to find someone that would represent them in court, to sue those who try to seize the commons. Both historically and today, those who benefit most from the commons are not "owners" in the technical sense, but usually poor farmers (or today young Internet surfers) with no means of accessing the court system. Let's remember how easily farmers in England fell victim to enclosures in the first, crucial phase of early capitalism which provided the necessary proletarian workforce for the rising manufacturers. Enclosures and violent recruitment of dispossessed peasants to become a capitalist workforce would simply have been impossible without the fundamental alliance between private ownership and the State (Tigar 1977).

The dominant vision of the commons as a poorly theorized exception to either market or government is rooted at the very origins and in the very structure of the dominating Western vision of the law. That is how a social fact becomes real.

Piercing the veil of the market-state dichotomy

Private property and the State are the two major legal and political institutions that carry on the dominant view of the world. But the state versus private debate presents a false dichotomy, a distinction without a difference. The state is no longer the democratic representation of the aggregate of individuals, but instead a market actor among many. The collusion or merger of state and private interests, with the same actors (corporations) on both sides of the equation, leaves little room for a "commons" framework, no matter how convincing the evidence about the benefits may be.

Conventional wisdom presents the market and the state as radically conflicting. It assumes, in a cryptic way, that they have a zero-sum relationship: more state is equal to less market and less market is equal to more state. In this reductive scheme, the state and private property become two essential and opposite poles of opposition. Of course this picture is totally false on both historical and modern levels because the two entities, as social and living institutions, can only be structurally linked in a relationship of mutual symbiosis. The fabricated, clear-cut opposition between the two reflects the ideological choice of the individualistic tradition. This conflict emerged at the very origins of liberal individualism, as seen in Locke and Hobbes, the two champions, respectively, of private property and of State sovereignty.

This reduction hides a shared structure of property (market) and sovereignty (state) based on the concentration of power. Private structures (corporations)

concentrate their decisionmaking and power of exclusion in the hands of one subject (the owner) or within a hierarchy (the CEO). Similarly, public structures (bureaucracies) concentrate power at the top of a sovereign hierarchy. Both archetypes are inserted into a fundamental structure: the rule of a subject (an individual, a company, the government) over an object (a private good, an organization, a territory). Such pretended opposition between two domains that share the same structure is the result of modern Cartesian reductionist, quantitative, and individualistic thought.

The individual subject left alone, narcissistic and wanting, finds in products, commodities, and external objects the satisfaction of his desires. This impoverished relational horizon, which has produced our alienation from nature ("we own it therefore we are not part of it") is scientifically constructed as "objective" and measured by a system of prices to be paid for the satisfaction of various increasingly complex "needs." The typical individualistic "fiction" of the liberal tradition, e.g., the myth of Robinson Crusoe, induces market needs by erasing consciousness of the communitarian experience. The more needs the lonely individual has, the more money can be collected to satisfy them. Thus the qualitative paradigm based on meaningful relationships submits to a quantitative one.

Unfortunately, ecology and "systemic" thinking – the paradigms that could reveal the devastating impact of individualistic accumulation on community life – are notably absent in contemporary politics, in part because it looks to the "social sciences" (particularly microeconomics, political science and marketing) as its only repository of ideas. Contrary to microbiologist Garrett Hardin's famed phrase: the "tragedy of the commons" (Hardin 1968) – "a commons is a place of no law and therefore ruin" – state and market mechanisms that rely on the "individual" as its object are in fact the culprits of this ruin today (Freney et al. 1990).

Two world views in conflict: competition versus cooperation

Individual selfishness is the central assumption underpinning Hardin's analysis. Only the crude application of the model of *Homo economicus* explains the results (and academic success) of the so-called "tragedy of the commons." *Homo economicus* originated in the work of John Stuart Mill and was brought into mainstream political economy in the 18th century by Adam Smith and David Ricardo, both of whom focused on individuals as maximizers of short-term utility. Hardin's "tragedy" parable continued this tradition when it cast the commons as a place of no law. According to Hardin, a common resource, as freely appropriable, stimulates the opportunistic individual behavior of accumulation and ultimately destructive and "inefficient" consumption. This reasoning conjures up the image of a person invited to a buffet where food is freely accessible, and rather than sharing the bounty with others, rushes to try to maximize the amount of calories that can be stored at the expense of others, efficiently consuming the largest possible amount of food in the least possible time.

The "tragedy of the commons" highlights two worldviews in conflict. The dominant worldview is substantially social Darwinism, which makes "competi-

tion," "struggle," and "emulation" between physical and legal persons the essence of reality. The recessive worldview, an ecological and holistic understanding of the world, is based on relationships, cooperation and community. This model, still present in the organization of communities in the "periphery," continues to suffer a merciless assault by the structural adjustment and comprehensive "modernization" and "development" plans of the World Bank and International Monetary Fund. As many of the articles in this volume testify, such efforts encourage the "commodification" of land, and of local knowledge as well as cultural adjustments (imposition of human rights, rule of law, gender equality, etc.) that serve as a justifying rhetoric for continuity in plunder (Mattei & Nader 2008).

Elinor Ostrom and her team of social scientists successfully amassed an overwhelming amount of empirical evidence to show that cooperative property arrangements are in fact successful and that individuals do not necessarily destroy their common-pool resources. Ostrom's work undeniably marks a critical turning point in economic theory. It refuted Hardin's tragedy, but it failed to notice that corporations and States, if not individuals, behave in ways that nonetheless produce tragedy. Without consideration of the fierce historical, political and legal struggle between commoners on the one hand and the unholy alliance between the State and private property (capital) on the other, Ostrom's findings remain limited in their applicability.

The so-called "original accumulation" described by Marx has been an institutional phenomenon carried on by an alliance between centralized State structures and a concentration of capital by private property and corporate structures. This process has victimized the ordinary ("non-institutional") human being, and has produced and ideologically justified a process of brutal institutional exploitation of the multitudes by the few. Such a phenomenon was by no means limited to the "enclosure" laws of England. The *terra nullius* doctrines endorsed by John Locke and other scholars during the period of colonial expansion overseas confirm the institutional nature of "tragedy producing" behavior (Mattei and Nader 2008). Natives were all but denied human condition (were "reduced" to a natural state) because they did not adopt the civilizing institution of private property. In more recent times, the patterns of domination, institutional settings, and narratives of enclosure have taken on more subtle forms, but continue to enclose the commons.

Hardin's parable maintains tremendous predictive power despite Ostrom's critique and all its own intellectual shortcomings, e.g., that the common is a place of no law, precisely because as a rule "mere humans," acting outside of the institutional context of modernity, do respect the commons. Meanwhile "institutional humans" operating via States and corporations continue to produce tragic outcomes. Thus the panoply of Ostrom's examples of flesh-and-blood individuals who cooperate rather than compete, seems impotent to undermine Hardin's argument. The examples do not take adequate account of the institutional realities and the actual power structures in which decision-making occurs. Indeed, Ostrom's critique of the tragedy of the commons risks shifting attention away from

the problem and shielding powerful economic and political actors from responsibility for "tragedies."

Often, scholars accept the specious dichotomy between state and market, as discussed above, and so decline to develop a deeper phenomenological understanding of the commons that could make a radical break from the discourse of commodification. Understanding commons as commodities actually limits our understanding of the many types of commons (natural, social, cultural, knowledge-based, historical) and blunts their revolutionary potential and legitimate claims for a radical, egalitarian redistribution of resources. Much of the literature on the commons should be thoroughly and critically examined so as to avoid reproducing the traditional mechanistic view, the separation between object and subject, and resulting commodification (Rota 1991).

Rehabilitating the common sense

A phenomenological understanding of the commons forces us to move beyond the reductionist opposition of "subject-object," which produces the commodification of both. It helps us understand that, unlike private and public goods, commons are not commodities and cannot be reduced to the language of ownership. They express a qualitative relation. It would be reductive to say that we have a common good. We should rather see to what extent we are the commons, in as much as we are part of an environment, an urban or rural ecosystem. Here, the subject is part of the object. For this reason commons are inseparably related and link individuals, communities, and the ecosystem itself.

This holistic revolution has ancient roots, from Aristotle's ontological investigations to later philosophers like Husserl and Heidegger, who employed concepts such as "fundierung" (Heidegger 1962) and "involvement" to signal the end of an "objective" world where subjects are separate from their objects of observation and individuals are separate from their very environment. New holistic attitudes have emerged, also, in the natural sciences through physics and systems biology which are based on the qualitative mapping of relationships, rather than on quantitative measurements and the positivistic reductionism of Galileo, Descartes, and Newton (Capra 2004). Quantum mechanics in particular, and Einstein's relativity, have caused an epistemological revolution that disciplines such as cognitive science and consciousness studies are attempting to address. Despite the richness of the holistic revolution in these disciplines, this revolution has yet to be embraced in the social sciences.

The commons can be described only from a phenomenological and holistic perspective, which is incompatible with the above-mentioned reductionism and with the idea of individual autonomy as developed in the rights-based capitalist tradition. In this respect, commons are an *ecological-qualitative* category based on inclusion, access and community duties, whereas property and State sovereignty are *economical-quantitative* categories based on exclusion (produced scarcity), a rhetoric of individual-centered rights and the violent concentration of power into a few hands.

These insights require the jurists to address the difficult and urgent task of constructing the foundations of a new legal order capable of transcending the dualisms (property, State, subject/object, public/private) inherent in the current order. The new order must overcome the dominance of private property individualism, and competition, and focus on the collective and the commons. The challenge is to create an institutional setting that can enable long-term sustainability and full inclusion of all global commoners, including the poorest and most vulnerable. To do so we need first an epistemic (and political) emancipation from the predatory appetites of both the State and private property, the two *fundamental* components of the dominant Western wisdom.

A political shift

Today we can see from examples all around us – from global warming to the economic collapse – that the commons offers us a fundamental and necessary shift in the perception of reality. In this context the commons help us reject the illusions of modern liberalism and rationalism. This is why we cannot settle for seeing the "commons" as a mere third way between private property and the state, as most of the current debate seems to suggest. The commons cannot be reduced to managing the leftovers of the Western historical banquet, which is the preoccupation of the contemporary political scene. To the contrary, we believe that the commons must be elevated as an institutional structure that genuinely questions the domains of private property, its ideological apparatuses and the State – not a third way but a challenge to the alliance between private property and the state.

The shift that we need to accomplish not only theoretically but also politically is to change the dominant wisdom – from the absolute domination of the subject (as owner or State) over the object (territory or environment) – to a focus on the relationship of the two (subject-nature). We need a new common sense that recognizes that each individual's survival depends on his/her relationship with others, with the community, and with the environment. The first necessary shift to a holistic vision requires a reorientation away from quantity (a fundamental idea of the scientific revolution and of capitalist accumulation) to quality.

A legal system based on the commons must use the "ecosystem" as a model, where a community of individuals or social groups is horizontally linked and power is dispersed. It must generally reject the idea of hierarchy in favor of a participatory and collaborative model, one that prevents the concentration of power and puts community interests at the center. Only in such a framework can social rights actually be satisfied. In this logic, a commons is not a mere resource (water, culture, the internet, land, education) but rather a shared conception of reality that radically challenges the seemingly unstoppable trend of enclosure and corporatization.

Even today, despite the dramatic crisis of 2008, State intervention, dubbed Keynesian policy, has served to transfer massive amounts of public money to the private sector. The logic of plunder shared by both the private and the state sector could not be more open. What we need is rather a very large extension of the commons framework, "less government, less market, more commons." This is, I believe, the only way to resurrect an alternative narrative of social inclusion.

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Feminism and the Politics of the Commons

By Silvia Federici

Reproduction precedes sexual production. Touch the women, touch the rock!

— Peter Linebaugh

At least since the Zapatistas took over the zocalo in San Cristobal de las Casas on December 31, 1993, to protest legislation dissolving the *ejido* lands of Mexico, the concept of "the commons" has been gaining popularity.¹ There are important reasons why this apparently archaic idea has come to the center of political discussion in contemporary social movements. Two in particular stand out. On one side, the failure of the statist model of development that for decades had sapped the efforts of radical movements to build an alternative to capitalism. On the other hand, the defense against "old and new enclosures" have made visible a world of communal properties and relations that many had believed to be extinct or had not valued until threatened with privatization.² Ironically, these enclosures have demonstrated that not only has the commons not vanished, but also new forms of social cooperation are constantly being produced, including in areas of life where none previously existed like for example the Internet. The idea serves an ideological function as a unifying concept prefiguring the cooperative society that many are struggling to create. Nevertheless, as we shall see, it is also a concept that has been in the interpretations of this concept, which we need to clarify if we want the principle of the commons to translate into a coherent political project.³

1 | Linebaugh, Peter. 2008. *The Magna Carta Manifesto: Liberty and Commons for All*. Berkeley CA: University of California Press.

2 | A key source on the politics of the commons and its theoretical foundations is the UK based electronic journal The Commoner, now entering its fourteenth year of publication (www.commoner.org.uk). See also the essay by Gustavo Esteva on pp. 192-198 in this book.

3 | A case in point is the struggle that is taking place in many communities in Maine against Nestlé's attempt to privatize the state's waters to create a mega Spring. Nestlé itself has made it clear and it is not a surprise that new water is being sold in the state of Maine as fast as it is being taken from a public good. See *Water Wars: Fair Share* by David Hard and Mark Wainwright, a self-named "non-profit organization that works to ensure clean water and safe food in the United States and around the world."

4 | An excellent site for current debates on the commons is the recently published issue of the UK based movement journal *Turbulence: Ideas for Movement* (see December 3, 2009 issue) available at <http://turbulence.org.uk>

What, for example, constitutes a common? We have land, water, air commons, digital commons, our acquired entitlements, e.g., social security pensions, are often described as commons, and so are languages, libraries, and the collective products of past cultures. But are all these commons equivalent from the viewpoint of their political potential? Are they all compatible? And how can we ensure that they do not protect a unity that remains to be constructed? Finally, should we speak of "commons" in the plural, or "the common," as Autonomist Marxists propose we do, this concept designating in their view the social relations characteristic of the dominant form of production in the post-Fordist era?

With these questions in mind, in this essay I look at the politics of the commons from a feminist perspective where "feminist" refers to a standpoint shaped by the struggle against sexual discrimination and over-reproductive work, which, to paraphrase Linebaugh's comment above, is the rock upon which society is built and by which every model of social organization must be tested. This intervention is necessary in my view to better define this politics and clarify the conditions under which the principle of the common/s can become the foundation of an anti-capitalist program. Two concerns make these tasks especially important.

First, since at least the early 1990s, the language of the commons has been appropriated for instance by the World Bank and put at the service of privatization. Under the guise of protecting biodiversity and conserving the global commons, the Bank has turned rainforests into ecological reserves, has expelled the populations that for centuries had drawn their sustenance from them while ensuring access to those who can pay, for instance, through eco-tourism.⁵ The World Bank is not alone in its adaptation of the idea of the commons to market interests. Responding to different motivations, a revalorization of the commons has become trendy among mainstream economists and capitalist planners: witness the growing academic literature on the subject and its cognates: social capital, gift economies, altruism.

The extension of the commodity form to every corner of the social factory which neo-liberalism has promoted, is an ideal limit for capitalist ideologues, but it is a project not only unrealizable but undesirable from the viewpoint of long-term reproduction of the capitalist system. Capitalist accumulation is structurally dependent on the free appropriation of immense quantities of labor and resources that must appear as externalities to the market, like the unpaid domestic work that women have provided upon which employers have relied for the reproduction of the workforce. It is no accident, then, that long before the Wall Street meltdown, a variety of economists and social theorists warned that the marketization of all spheres of life is detrimental to the market's well-functioning, for markets too, the argument goes, depend on the existence of non-monetary relations like confidence, trust, and gift giving.⁶ In brief, capital is learning about the virtues of the common good.

5 | For more on this subject, see the important article, "Who Pays for the Kyoto Protocol?" by Andrew Ross, *Commons*, 1 (2002), 10-12, available at <http://www.commonsonline.org/kyoto.html>.
 6 | See, for example, David Bollier, *Surplus Theft: The Private Plunder of Our Common Wealth*, New York and London: Routledge, 36-39.

We must be very careful, then, not to craft the discourse on the commons in such a way as to allow a crisis-ridden capitalist class to revive itself posturing, for instance, as the environmental guardian of the planet.

A second concern is the unanswered question of how commons can become the foundation of a non-capitalist economy. From Peter Linebaugh's work, especially *The Magna Carta Manifesto* (2008), we have learned that commons have been the thread that has connected the history of the class struggle into our time, and indeed the fight for the commons is all around us. Mainers are fighting to preserve access to their fisheries, under attack by corporate fleets; residents of Appalachia are organizing to save their mountains threatened by strip mining; open source and free software movements are opposing the commodification of knowledge and opening new spaces for communications and cooperation. We also have the many invisible commoning activities and communities that people are creating in North America, which Chris Carlsson has described in his *Neutopia* (2007). As Carlsson shows, much creativity is invested in the production of "virtual commons" and forms of sociality that thrive under the radar of the money/market economy.

Most important has been the creation of urban gardens, which have spread across the country, thanks mostly to the initiatives of immigrant communities from Africa, the Caribbean or the South of the United States. Their significance cannot be overestimated. Urban gardens have opened the way to a "rurbanization" process that is indispensable if we are to regain control over our food production, regenerate our environment and provide for our subsistence. The gardens are far more than a source of food security. They are centers of sociality, knowledge production, and cultural and intergenerational exchange.⁷

The most significant feature of urban gardens is that they produce for neighborhood consumption, rather than for commercial purposes. This distinguishes them from other reproductive commons that either produce for the market, like the fisheries of Maine's "Lobster Coast,"⁸ or are bought on the market, like the land trusts that preserve open spaces. The problem, however, is that urban gardens have remained a spontaneous grassroots initiative and there have been few attempts by movements in the US to expand their presence and to make access to land a key terrain of struggle...

7 | An early important work on urban gardens is Bill Weinberg and Peter Lamborn Wilson, *Urban Gardening: The Politics of Growing Food* (New York: Bantam, 1975).
 8 | Autonomedia. See also the essay by Christa Miller on pp. 219-224 of this book.

8 | The fishing commons of Maine are presently threatened with a new privatization policy known as "catch shares" and ironically labeled "catch shares." This is a system already applied in Canada and Alaska whereby local governments set limits on the amount of fish that can be caught by allocating individual shares on the basis of the amount of fishing effort they have done in the past. This system is known to be disastrous for small independent fishermen who are soon forced to sell their share to the highest bidder. Protest against its implementation is now mounting in the fishing communities of Maine. See "Catch Shares: Share-Croppers?" *Fishermen's Voice*, Vol. 14, No. 12, December 2009.

Women and the Commons

More generally, the left has not posed the question of how to bring together the many proliferating commons that are being defended, developed and fought for so that they can form a cohesive whole and provide a foundation for a new mode of production. It is in this context that a feminist perspective on the commons is important because it begins with the realization that, as the primary subjects of reproductive work, historically and in our time, women have depended on access to communal natural resources more than men and have been most penalized by their privatization and most committed to their defense.

As I wrote in *Caliban and the Witch* (2004) in the first phase of capitalist development, women were at the forefront of the struggle against land enclosures both in England and in the "New World" and they were the staunchest defenders of the communal cultures that European colonization attempted to destroy. In Peru, when the Spanish conquistadores took control of their villages, women fled to the high mountains where they recreated forms of collective life that have survived to this day. Not surprisingly, the sixteenth and seventeenth centuries saw the most violent attack on women in the history of the world: the persecution of women as witches. Today, in the face of a new process of Primitive Accumulation, women are the main social force standing in the way of a complete commercialization of nature, supporting a non-capitalist use of land and a subsistence-oriented agriculture. Women are the subsistence farmers of the world. In Africa they produce 80 percent of the food people consume despite the attempts made by the World Bank and other agencies to convince them to divert their activities to cash-cropping. In the 1990s, in many African towns, in the face of rising food prices, they have appropriated plots in public lands and planted corn, beans, cassava along roadsides, in parks, along rail-lines, changing the urban landscape of African cities and breaking down the separation between town and country in the process.⁹ In India, the Philippines, and across Latin America, women have replanted trees in degraded forests, joined hands to chase away loggers, made blockades against mining operations and the construction of dams, and led the revolt against the privatization of water.¹⁰

The other side of women's struggle for direct access to means of reproduction has been the formation across the Third World from Cambodia to Senegal, of credit associations that function as money commons (Podlashuc 2009). Differently named, the tontines (as they are called in parts of Africa) are autonomous, self-managed, women-made banking systems that provide cash to individuals or groups that have no access to banks, working purely on a basis of trust. In this, they are completely different from the microcredit systems promoted by the World Bank, which function on a basis of mutual policing and shame, reaching the extreme,

e.g., in Niger, of posting in public places pictures of the women who fail to repay the loans, so that some women have been driven to suicide.¹¹

Women have also led the effort to collectivize reproductive labor both as a means to economize the cost of reproduction and to protect each other from poverty, state violence, and the violence of individual men. An outstanding example is that of the ollas communes (common cooking pots) that women in Chile and Peru set up in the 1980s when, due to stiff inflation, they could no longer afford to shop alone (Fisher 1993, Andreas 1985). Like land reclamations, or the formation of tontines, these practices are the expression of a world where communal bonds are still strong. But it would be a mistake to consider them something pre-political "natural," or simply a product of "tradition." After repeated phases of colonization nature and customs no longer exist in any part of the world, except where people have struggled to preserve them and reinvent them. As Leo Podlashuc has noted grassroots women's communalism today leads to the production of a new reality. It shapes a collective identity, it constitutes a counter-power in the home and the community, and opens a process of self-valorization and self-determination from which there is much that we can learn.

The first lesson we can gain from these struggles is that the "commoning" of the material means of reproduction is the primary mechanism by which a collective interest and mutual bonds are created. It is also the first line of resistance to a life of enslavement and the condition for the construction of autonomous spaces undermining from within the hold that capitalism has on our lives. Undoubtedly the experiences I described are models that cannot be transplanted. For us, in North America, the reclamation and commoning of the means of reproduction must necessarily take different forms. But here too, by pooling our resources and re-appropriating the wealth that we have produced, we can begin to de-link our reproduction from the commodity flows that, through the world market, are responsible for the dispossession of millions across the world. We can begin to disentangle our livelihood not only from the world market but also from the war machine and prison system on which the US economy now depends. Not last we can move beyond the abstract solidarity that so often characterizes relations in the movement, which limits our commitment, our capacity to endure, and the risks we are willing to take.

In a country where private property is defended by the largest arsenal of weaponry in the world, and where three centuries of slavery have produced profound divisions in the social body, the recreation of the common/s appears as a formidable task that could only be accomplished through a long-term process of experimentation, coalition building and reparations. But though this task may now seem more difficult than passing through the eye of a needle, it is also the only possibility we have for widening the space of our autonomy and refusing to accept that our reproduction occurs at the expense of the world's other commoners and commons.

9) Donald B. Freeman, "Survival Strategy or Business Training Ground? The Significance of Urban Agriculture For the Advancement of Women in African Cities," *African Studies Review* 36(3) (December 1993): 1-22. Also, Federico 2008.

10) Shiva 1989, 1991, 102-117, 274.

11) I owe this information to Oussema Aïdou, Director of the Center for African Studies at Rutgers University (NJ).

Feminist Reconstructions

What this task entails is powerfully expressed by Maria Mies when she points out that the production of commons requires first a profound transformation in our everyday life, in order to recombine what the social division of labor in capitalism has separated. For the distancing of production from reproduction and consumption leads us to ignore the conditions under which what we eat, wear, or work with have been produced, their social and environmental cost, and the fate of the population on whom the waste we produce is unloaded (Mies 1999). In other words, we need to overcome the state of irresponsibility concerning the consequences of our actions that results from the destructive ways in which the social division of labor is organized in capitalism: short of that, the production of our life inevitably becomes a production of death for others. As Mies points out, globalization has worsened this crisis, widening the distances between what is produced and what is consumed, thereby intensifying, despite the appearance of an increased global interconnectedness, our blindness to the blood in the food we eat, the petroleum we use, the clothes we wear and the computers we communicate with.

Overcoming this state of oblivion is where a feminist perspective teaches us to start in our reconstruction of the commons. No common is possible unless we refuse to base our life and our reproduction on the suffering of others, unless we refuse to see ourselves as separate from them. Indeed, if commoning has any meaning, it must be the production of ourselves as a common subject. This is how we must understand the slogan “no commons without community.” But “community” has to be intended not as a gated reality, a grouping of people joined by exclusive interests separating them from others—as with communities formed on the basis of religion or ethnicity, but rather as a quality of relations, a principle of cooperation and of responsibility to each other and to the earth, the forests, the seas, the animals.

Certainly, the achievement of such community—like the collectivization of our everyday work of reproduction—can only be a beginning. It is no substitute for broader anti-privatization campaigns and the reclamation of our common wealth. But it is an essential part of our education to collective government and our recognition of history as a collective project, which is perhaps the main casualty of the neoliberal era of capitalism.

On this account, we too must include in our political agenda the communalization of housework, reviving that rich feminist tradition that in the US stretches from the utopian socialist experiments of the mid-nineteenth century to the attempts that “materialist feminists” made from the late nineteenth century to the early twentieth century to reorganize and socialize domestic work and thereby the home and the neighborhood, through collective housekeeping—attempts that continued until the 1920s when the Red Scare put an end to them (Hayden 1981 and 1986). These practices and, most importantly, the ability of past feminists to look at reproductive labor as an important sphere of human activity not to be negated but to be revolutionized, must be revisited and revalorized.

One crucial reason for creating collective forms of living is that the reproduction of human beings is the most labor-intensive work on earth and, to a very large extent, it is work that is irreducible to mechanization. We cannot mechanize childcare, care for the ill, or the psychological work necessary to reintegrate our physical and emotional balance. Despite the efforts that futurist industrialists are making, we cannot robotize care except at a terrible cost for the people involved. No one will accept nursebots as caregivers, especially for children and the ill. Shared responsibility and cooperative work, not given at the cost of the health of the providers, are the only guarantees of proper care. For centuries, the reproduction of human beings has been a collective process. It has been the work of extended families and communities on which people could rely, especially in proletarian neighborhoods, even when they lived alone so that old age was not accompanied by the desolate loneliness and dependence on which so many of our elderly live. It is only with the advent of capitalism that reproduction has been completely privatized, a process that is now carried to a degree that it destroys our lives. This trend must be reversed, and the present time is propitious for such a project.

As the capitalist crisis destroys the basic elements of reproduction for millions of people across the world, including in the United States, the reconstruction of our everyday life is a possibility and a necessity. Like strikes, social/economic crises break the discipline of wage work, forcing new forms of sociality upon us. This is what occurred during the Great Depression, which produced a movement of hobos who turned the freight trains into their commons, seeking freedom in mobility and nomadism (Callentzis 2006). At the intersections of railroad lines, they organized hobo jungles, pre-figurations, with their self-governance rules and solidarity, of the communist world in which many of the hobos believed (Anderson 1998, Depastino 2003 and Callentzis 2006). However, but for a few *Boxcar Berthas*,¹² this was predominantly a masculine world, a fraternity of men, and in the long term it could not be sustained. Once the economic crisis and the war came to an end, the hobos were domesticated by the two great engines of labor power fixation: the family and the house. Mindful of the threat of working class recomposition during the Depression, American capital excelled in its application of the principle that has characterized the organization of economic life: cooperation at the point of production, separation and atomization at the point of reproduction. The atomized, serialized family house that Levittown provided—compounded by its umbilical appendix, the car, not only sedentarized the worker but put an end to the type of autonomous workers' commons that hobo jungles had represented (Hayden 1986). Today, as millions of Americans' houses and cars are being repossessed, as foreclosures, evictions, and massive loss of employment are again breaking down the pillars of the capitalist discipline of work, new common grounds are again taking shape, like the tent cities that are sprawling from coast to coast. This time, however, it is women who must build the new commons so that they do not remain

12 | *Boxcar Bertha* (1972) is Martin Scorsese's adaptation of Ben Reitman's *Sister of the Road*, “the fictionalized autobiography of radical and transient Bertha Thompson.” (Wikipedia) See Reitman, Ben, 2002. *Dr. Sister of the Road: The Autobiography of Boxcar Bertha*. Oakland, CA: AK Press.

transcend space, temporality and the other's zones of exclusion, but to initiate new forms of social reproduction.

If the house is the *oikos* on which the economy is built, then it is women, historically the house workers and house prisoners, who must take the initiative to reclaim the house as a center of collective life: one traversed by multiple people and forms of cooperation, providing safety without isolation and fixation, allowing for the sharing and circulation of community possessions, and, above all, providing the foundation for collective forms of reproduction. As has already been suggested we can draw inspiration for this project from the programs of the nineteenth century materialist feminists who, convinced that the home was an important "spatial component of the oppression of women," organized communal kitchens, cooperative households calling for workers' control of reproduction (Hayden 1981).

These objectives are crucial at present. Breaking down the isolation of life in the home is not only a precondition for meeting our most basic needs and increasing our power with regard to employers and the state. As Massimo De Angelis has reminded us, it is also a protection from ecological disaster. For there can be no doubt about the destructive consequences of the "un-economic" multiplication of reproductive assets and self-enclosed dwellings that we now call our homes, dissipating warmth into the atmosphere during the winter, exposing us to unmitigated heat in the summer (De Angelis 2007). Most importantly, we cannot build an alternative society and a strong self-reproducing movement unless we redefine our reproduction in a more cooperative way and put an end to the separation between the personal and the political, and between political activism and the reproduction of everyday life.

It remains to be clarified that assigning women this task of commoning, collectivizing reproduction is not to concede to a naturalistic conception of femininity. Understandably, many feminists view this possibility as a fate worse than death. It is deeply scripted in our collective consciousness that women have been designated as men's common, a natural source of wealth and services to be as freely appropriated by them as the capitalists have appropriated the wealth of nature. But to paraphrase Dolores Hayden, the reorganization of reproductive work, and therefore the reorganization of housing and public space, is not a question of identity; it is a question of labor and, we can add, a question of power and safety (Hayden 1986). I am reminded here of the experience of the women members of the Landless People's Movement of Brazil (the MST) who, after their communities won the right to maintain the land that they had occupied, insisted that the new houses be built to form one compound so that they could continue to communalize their housework, wash together, cook together, as they had done in the course of the struggle, and be ready to run to give each other support when abused by men. Arguing that women should take the lead in the collectivization of reproductive work and housing is not to naturalize housework as a female vocation. It is refusing to obliterate the collective experiences, the knowledge and the struggles that women have accumulated concerning reproductive work, whose history has been an essential part of our resistance to capitalism. Reconnecting with this history is a crucial step for women and men today both to undo the gendered architecture of our lives and to reconstruct our homes and lives as commons.

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Rethinking the Social Welfare State In Light of the Commons

By Brigitte Kratzwald

When we talk about commons in Europe, the question usually arises whether public services are also to be considered commons. In order to answer this question, we must examine our understanding of the (social welfare) state on the one hand and the concept of the "public" on the other.

From the social welfare state to the neoliberal competition state

The social welfare state typical of western Europe from the end of World War II to the 1980s had three functions: redistributing wealth by means of taxation, ensuring protection from individual risks through insurance or transfer payments, and providing goods and services that were to be available to all for free or at affordable prices.¹ In this way, the state met a number of important economic and social needs while also gaining a high degree of control over people's lives – which often gave rise to the criticism "nanny state."

As the neoliberal economic model prevailed around the world, the role and functions of the state were redefined. Now the most important task of the state is to ensure competitiveness in the global economy. By default, the provision of goods and services occurs according to market criteria, or this responsibility is delegated entirely to private companies with the expectation that they will improve efficiency and customer responsiveness. This has been an unfulfilled promise, however. Indispensable goods and services have become more expensive, are often no longer available everywhere, and their quality has diminished. It has become clear that the state is not a neutral actor that truly represents the interests of the general public, but rather it reflects societal power relations.

Worse, social movements that support public services have been forced to defend the continued provision of such state services, as seen in such efforts as the Stop GATS (General Agreement on Trade in Services) campaign, the campaign against the EU Services Directive, and various initiatives against the privatisation of water supply, public transportation, hospitals and nursing facilities. The only credible goal is to ensure sufficient funding, not any expansion of services. Because

1 | This term was coined by Joachim Hirsch. (Hirsch 2002, pp. 110ff.)

2 | However, these elements were represented in varying degrees in the different types of social welfare state as distinguished by Esping-Andersen (1990, pp. 9ff.)

Reclaiming the State

In many cases, governments have proven to be poor trustees of the things entrusted to them. Discontent about how they are doing their job is on the rise. People are standing up and taking responsibility with the words, "This is ours, and we want to make the decisions about it." Only through this process are these things becoming truly public goods and services. In this way, people are reclaiming control over the direct circumstances of their lives. We have been witnessing such processes of reclaiming in great numbers in recent years, going far beyond the demand for sufficient funding of public institutions and services. Some examples include the Berliner Wassertisch, a network of individuals trying to reclaim water management in Berlin,¹⁰ the Energiewende Hamburg, a coalition engaged in energy policy,¹¹ and the Austrian railroad passengers' initiative, Pro Bahn.¹²

Since self-determination is easiest to implement at the local level, it is municipalities above all that can benefit from the idea of the commons.¹³ One way of doing this is through municipal cooperatives as an alternative to public-private partnerships. Numerous cooperatives of this kind are currently emerging in the field of renewable energy. The funds for financing public institutions come from the citizens themselves, who in return have opportunities to participate and make decisions. While this makes sense in some contexts, it is not a universal solution: after all, the point is also to provide sufficient funding for public services, not simply to replace them with voluntary contributions and voluntary participation.

In her book *Reclaim the State* (Wainwright 2009), Hilary Wainwright describes how people can succeed in taking responsibility for public funds. For example, the people in an affected neighborhood can rally to win authority and direct benefits from state funding rather than delegating such authority and money to, say, real-estate developers commissioned with developing a neighborhood. Wainwright demonstrates that citizens and local politicians can join forces and successfully bring pressure to bear on businesses as well as on politics at the state and federal level.

What such initiatives share with commons is that the users themselves actively take control, rules are devised in a bottom-up procedure, and people demand control over their lives and are prepared to take responsibility for them. In addition, the citizens active in such arrangements can delegate various tasks to the state or the municipality. But in turn, the state and the municipality are held accountable to them, and there must be decision-making procedures that include the users and the people employed. For example, governmental institutions can be assigned to serve as trustees by managing various things according to decisions made by the citizens, but those institutions are denied the right to dispose of resources or sell them at will. In case of conflict, the state can offer mediation and must provide

space and funding to carry out such decision-making procedures. The city government of Porto Alegre did so in exemplary fashion for the participatory budget process (Wainwright 2009). Another example is the process for public procurement in Mexico City, one of the world's megametropolises. Government institutions should also be used to support those societal groups for whom it is difficult, for various reasons, to participate in decision-making processes.

How services are provided – by the state, controlled by those affected, by citizens through various forms of government support and financing, or in self-organized social networks – must be decided anew in every individual case. The prerequisite is that this space for political empowerment is not enclosed by means of privatization.

As in the case of commons, creating and maintaining such public services takes substantial time and cannot be had for free. We must speak out when the idea of the commons is used to justify cutting public expenditures, especially for social services and health, as is the case in England, where Prime Minister David Cameron talks about "Big Society."¹⁴ After all, the legal right to certain basic human services must remain untouched. Such an understanding of the role of the public opposes both kinds of privatization, that is, it is also against pushing tasks such as education and care back into the realm of the family and thus into that of women. After all, neither the state nor the family alone can ensure that the needs of children, youths, the elderly and disabled people are met and that they can develop their potential and contribute their skills. Such integration is a task for all of society, as reflected in the famous African proverb: "It takes a village to raise a child."¹⁵

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10 | The Berliner Wassertisch. <http://berliner-wassertisch.net>

11 | Energiewende Hamburg. <http://unser-netz-hamburg.de>

12 | Pro Bahn. <http://www.probahn.at>

13 | See, e.g., <http://kratzwald.wordpress.com/2011/01/23/commons-and-kommunalpolitik/>, and <http://kommuna.wiki.boell.de/index.php/Kategorie:Commons>.

14 | See Massimo De Angelis' essay on pp. 184–191.

15 | The saying is often attributed to the German philosopher Johann Wolfgang von Goethe, but it is symptomatic of this. Cf. <http://www.fretag.de/poetik/1191-kinderarmes-deutschland>.

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Common Goods Don't Simply Exist – They Are Created

By Silke Helfrich

Neoclassical economics tends to classify goods in four groups: private and public goods, club goods and common goods. Anyone attempting to apply this classification in order to organize real-world objects will achieve one thing above all: their own confusion.

Drinking water, for example, is usually considered a common good. According to the neoclassical theory, common goods are defined among other things by the fact that we compete for their use. If I drink a glass of water, nobody else can enjoy the same water a second time. Economists call this characteristic "rivalry." Apples, land and water are rival – more or less, of course, as rivalry hardly exists at all in its pure form. The question is rather about differing degrees of competition for consumption. Use by one person limits the opportunities of other people to use the good, but not in terms of "all or nothing," but rather "more or less." In commons research and elsewhere, the more apt term coined by Elinor Ostrom is used: *subtractability*. It illustrates the gradual nature of the phenomenon. Other individuals' opportunities for use are not necessarily lost due to one's own use, but something is "subtracted" from them. The situation is different when it comes to knowledge or information. Both of them increase as we use them simultaneously and frequently. Economists call this characteristic "non-rivalry." The difference between rival and non-rival resources is a qualitative one, and it must be respected. We all deal with it as a matter of course in our daily lives. When we listen to the same broadcast independently of one another, we are using a non-rival good, as nobody is competing with anybody else for the right to listen to the broadcast by listening to it. Yet we would hardly bite into the same apple at the same time as someone else. If several people each wanted to have part of an apple, they would have to share it. For this reason, rivalry is also called "divisibility."

So, in the classification of goods mentioned above, common goods are considered rival. They are joined by another category: *excludability*. According to the theory, common goods are characterized by being non-excludable. Much of commons research concurs with this position. For instance, we all indeed have the right to access sufficient quantities of clean drinking water. This right is derived

† I would like to thank Friederike Habermann, Heike Loechmann, Brigitte Kratzwald, Dirk Lohr, Stefan Meritz and Annette Schlemm for their enormously constructive comments.

from human rights. From a normative viewpoint, it is therefore difficult to exclude people from using drinking water. But technically speaking, in contrast, it is fairly easy to exclude them. All it takes is refraining from investing in water supply and sewerage and sealing or privatizing springs or wells, and then bottling the water in containers and selling it at prohibitive prices or making people depend on tank trucks. In fact, roughly three billion people do not have access to clean drinking water¹.

This example shows that depending on the degree of excludability, drinking water can become any kind of good: common to all of us, private, public or reserved for an exclusive club. We determine the form of use and thereby also the classification of drinking water as a particular type of good – yet we have apparently lost sight of this fact in a gradual process of ontologization.

This term ontology stems from the Greek participle "on" (being) and "logos" (science or study) – in other words, it denotes the study of being and refers to the fundamental constitution of things. According to landscape architect Frank Lohberg, "the human history of things disappears" in a process of ontologization, for it describes the shifting of man-made circumstances into the sphere external to us. Circumstances that invariably emerge in concrete social situations are separated from their historical contents,² and in the end seem inscribed in that which we encounter. In short, they become reified. Philosopher Annette Schlemm considers ontologizations to be "reductions of circumstances that are in flux or of things that exist in relationships merely to reified substances" (Schlemm 2011). Everything appears as if it has always been like it is, for over the course of time, people consider things to be natural that in fact evolved historically and were produced by society – jumping to theoretical conclusions, as it were. This process can also be observed in the neoclassical classification of goods. Theoretically determining common goods as rival and not excludable will, at best, make experts of the global drinking water situation utter a disillusioned "if only!" "Rival"? Yes, at least more or less. Canada is different from the Sahel. But "not excludable"?

How things were put together that don't belong together

In 1954, Paul A. Samuelson, the first US Nobel laureate in economics, established his "pure theory of public expenditure" with mathematical brevity. Alongside Richard Musgrave, the sage of public finance, welfare economist Samuelson is considered the father of the theory of public goods.³ In his oft-quoted 2-½ page article, he "explicitly assum[es] two categories of goods: ordinary private consumption goods [...] which can be parcelled out among different individuals [...] and collective consumption goods [...] which all enjoy in common [...]" (Samuelson 1954). Samuelson then categorizes the "public goods" he examines with the non-rival objects. The rival ones, in contrast, are transformed to become "private goods,"

Samuelson performs this coupling – rival and private on the one hand, non-rival and public on the other – under the heading "assumptions" in his influential article. He assigns each of these dual categories a logic of its own: "(1) outputs or goods which everyone always wants to maximize and (2) inputs or factors which everyone always wants to minimize [...]" Here, *Homo economicus*⁴ comes to the fore, even though the author explicitly points out that many areas of life elude this logic of maximizing utility, namely that individuals' social environment influences their preferences, yet "(1) it is not a 'scientific' task of the economist to 'deduce' the form of this function."⁵

Samuelson then limits his inquiry to the question as to how enough goods for which consumers do not compete can be supplied. The market as a broker will fail, for the price of non-rival goods can hardly be determined by the interplay of supply and demand. For this reason, music and information, for example, are artificially kept scarce today – in this way, they can be made "priceable." As an alternative, Samuelson believed the community could be responsible for dealing with this issue. Yet decentralized structures within which the people involved negotiate the production and distribution of public goods themselves would never result in the ethically desired result. The only remaining option is the state. And here, Samuelson makes another logical leap, one that can be traced throughout the literature:

rival and private = to be managed by the market
non-rival and public = to be managed by the state

This linkage was successful. To this day, what economists call a "public good" is usually given over to the state. Other institutions are disregarded. The linkage seems imperative and natural, even though the two parts certainly can be separated and indeed must be separated from one another.

Samuelson was aware of the complexity of his search for the optimal (state) formula for allocation. "The solution exists," he stated, "the problem is how to find it" (Samuelson 1954). And even then, there could still be free riders who enjoy the common goods without contributing anything in return. This is a problem for sociology, he stated in capitulation, sounding as resigned as an impassioned mathematician reaching the limits of the calculable.

"Sharing is Possible"

Another sensation followed eleven years later. James McGill Buchanan, also a Nobel laureate, published his article "An Economic Theory of Clubs." (Buchanan 1965). It, too, is short and succinct. "No general theory has been developed which covers the whole spectrum of ownership-consumption possibilities" (ibid., 1). Instead, research remained limited to private or public goods – even though hardly any goods displayed the characteristic of "extreme collectiveness" ascribed to public

2 | For more on the historical concept of the commons, see Hartmut Zückert's essay on pp. 145–51.

3 | See James B. Quiggin's essay on pp. 73–81 on the differences between public goods and common goods.

4 | See the essay by Friederike Habermann on pp. 13–18.

5 | Ibid., p. 5. The quotation refers to the use of a pair of shoes: "However, for any finite period of time, sharing is possible, even for such evidently private goods."

goods, de facto, practically everything was located somewhere between the two extremes. Therefore, Buchanan proposed "to drop any attempt at an initial classification or differentiation of goods into fully divisible and fully indivisible sets" and tried to develop a theory of goods with "some publicness." (Buchanan 1965, emphasis added) He called them "club goods." It was not "one user" or "the public" who accessed them, but a group of users. Thus, their utility for an individual depended on the number of people involved. In other words, goods he assigned to the established categories of goods.

Buchanan concluded that the core of the debate about goods was about "the sharing arrangements" – be they organized by the state or cooperatively.⁶ Accordingly, he did not seek the optimal formula for governmental provision and distribution, but the optimal formula for all those situations in which a limited group of people uses something jointly. He described one of his basic assumptions using the example of a country club. The rule "the more members, the lower each individual's membership fee" is valid only up to a certain size. If the club grows larger, it gets overcrowded, just like a traffic jam on a highway.

This example shows that Buchanan, too, is aware that his basic assumptions are simplified to a great degree. Memberships and environmental factors change. Different motivations for action can hardly be taken into consideration, just like Samuelson. He comes to a remarkable and largely overlooked conclusion: actually "[the necessary marginal conditions |...] allow us to classify all goods only after the solution is attained"⁷ (emphasis added). Economists following him apparently closed their minds to this insight and its consequences. The textbook version of the classification of goods still looks like this:

Types of goods according to excludability and rivalry

	Nonrivalrous	Rivalrous
Nonexcludable	Public goods (national defense, knowledge, etc.)	Common-pool resources (fish, forests, etc.)
Excludable	Private goods (cars, houses, etc.)	Club goods (country clubs, etc.)

Human history as reflected in things

Take an example of a "public good": a dike. It is considered indivisible, as the utility of the residents on one side of the river does not diminish the utility of the residents on the other. Therefore, its degree of rivalry is zero. In addition, a dike protects everyone just as a lighthouse shines the way for everyone, regardless of

whether they are taxpayers or not. This technical (or normative) indivisibility of exclusion is not the case with club goods, as exemplified by the character of private goods. Yet a dike can also be used by private citizens, part of the costs could be apportioned to the local residents, and anyone in arrears could be excluded from flood insurance. What matters is what happens in practice.

In an analysis of the social function of property, Christoph Engel, director of the Max Planck Institute for Collective Goods in Bonn, Germany, describes how different the reasons given for this alleged non-excludability are. For example, it is said that it is technically difficult to "pack air in sacks and buy one's daily quota of air for breathing at a store." Or clear allocation of individual property rights may be technically possible, but too expensive, or it is technically possible, but not socially achievable. One need only consider the idea of turning human organs urgently needed for transplants into tradeable goods. And finally, Engel gets to the crux of the matter:

None of these cases must remain unchanged over time. What is technically impossible today may be possible tomorrow, thanks to an invention. What is too expensive today may seem profitable tomorrow. |...| Technical or institutional innovations can make the establishment of usage rights cheaper. Normative convictions can change. (Engel 2002, Section 6)

Buchanan, too, had employed a similar argument: "If the structure of property rights is variable, there would seem to be few goods the services of which are non-excludable solely due to some physical attributes."

In other words, excludability depends on the concrete circumstances, on what we as acting individuals are capable of doing, and on our decisions. We could also express this idea as follows: a common good does not have the characteristic of non-excludability; rather, it is given this characteristic.

There is hardly a more telling illustration of this notion than that of US cartoonist Matthew Groening, creator of "The Simpsons." The Simpsons live in a curious small town called Springfield. Electricity for the town's population and factories, including one for amphibious vehicles, is supplied by an atomic power plant owned by the ruthless billionaire Charles Montgomery Burns. Burns's heart – this I learn from the (German-language) Simpsonsmedia – is "black and shriveled." Small wonder. After all, he has an intense aversion to the sun, which supplies Springfield's population with energy free of charge. In the first part of the famous two-part episode "Who Shot Mister Burns?" the groundskeeper of Springfield's school strikes oil. Everyone is delighted – except for Mr. Burns. He darkens the sun, making sunlight excludable.

Beyond classifications of goods

The theory of goods has become considerably more differentiated since the 1960s. Today, we speak of a continuum of goods, a number of subcategories have been added – pure and impure public goods, free goods and many more. Yet this has hardly contributed to a conceptual reorientation. Samuelson's logical leaps have

6) Ibid., p. 4. Buchanan relates this idea only to things that are used as economic goods. He believes that voluntary sharing does not belong in this category.

7) For example, optimal group size and appropriate rules of use. Ibid., p. 4.

remained as has the practical approach to the data. It shows the things we analyze. The confusion on the part of people who want to place real things in the table shown above continues as well. If we try to allocate the various resources currently labeled as commons according to the criteria of "rivalry" and "non-excludability," we get mired down in differentiations.

In the commons debate, both natural and depletable things such as water, land and forests and renewable, social and cultural things such as seed, algorithms, software, public space or the electromagnetic spectrum are considered as being owned jointly by a group of people – not because of their characteristics in the neoclassical sense, but simply because they are elementary to our lives. The way in which resources are made accessible to society also defines them as common resources. Either we inherited them, or we produced them collectively, often over the course of centuries. That is what makes things common to us, not their alleged characteristics. That is why they are considered common goods and not private goods. Whether we make apples, water and knowledge common goods is up to us.

The degree of rivalry is relevant when it comes to common rules for access and use. It results in different conventions. In the case of rival goods, restrictions to access are necessary – individuals are permitted to pick only the amount from a tree that they can carry in their hands.⁸ In the case of non-rival goods, only open access guarantees their development to everyone's greatest benefit.⁹ Unlimited access does not destroy them! Excludability, in contrast, is mostly produced by social processes. It is up to us whether we make apples (or more precisely, apple trees) common goods or whether access to apples always has to take the detour via the market. It is only this decision that determines whether they are to be allocated to the group of common goods, or club goods or private goods.

That is why we can confidently view the proverbial classification of goods from a respectful distance. We can "sublate" it in the Hegelian sense, which means set it aside, retaining what is useful and developing it further at a new level.

Above all, however, we can turn our attention to the question of what we want to do with our common resources. That is what really matters, for common goods exist only if we produce them – and they will remain only if we take care of them.

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8 | See Katharina Frosch's essay about a Web-enabled commons for fruit-picking, on pp. 229-246.

9 | See the essays by Mike Madison et al. (pp. 169-174) and Rainer Kuhlen (pp. 131-141).

The Tragedy of the Anticommons

By Michael Heller

This essay introduces the tragedy of the anticommons. What's that? Let's start with something familiar: a commons. When too many people share a single resource, we tend to overuse it – we may overfish the oceans and pollute the air. This wasteful overuse is a tragedy of the unmanaged commons. How do we solve such a tragedy?

Often, by creating private property. Private owners tend to avoid overuse because they benefit directly from conserving the resources they control. Unfortunately, privatization can overshoot. Sometimes we create too many separate owners of a single resource. Each one can block the others' use. If cooperation fails, nobody can use the resource. Everybody loses in a hidden tragedy of the anticommons. I say "hidden" because underuse is often hard to spot. For example, who can tell when dozens of patent owners are blocking a promising line of drug research? Innovators don't advertise the lifesaving cures they abandon.

The anticommons is a paradox. While private ownership usually increases wealth, too much ownership has the opposite effect: it wrecks markets, stops innovation, and costs lives. We can reclaim the wealth lost in a tragedy of the anticommons. But it takes tools to end ownership gridlock. The following pages provide the basic analytic tools you need: a brief overview of the anticommons lexicon (Heller 2008, 2010).

The trilogy of ownership

Traditionally, ownership has been categorized into three basic types: private commons, and state property (Heller 2001). Let's unpack those categories.

We all have strong intuitions about private property, but the term is surprisingly hard to pin down. A good starting point comes from William Blackstone, the foundational eighteenth-century British legal theorist. His oft-quoted definition of private property is "that sole and despotic dominion which one man claims and exercises over the external things of the world, in total exclusion of the right of any other individual in the universe." In this view, private property is about an individual decision maker who directs resource use.

Commons property refers to shared resources, resources for which there is no single decision maker. In turn, the commons can be divided into two distinct categories (Eggerisson 2002). The first is open access, a regime in which no one

at all can be excluded, like on the high seas. Mistakenly, the legal and economics literatures long conflated the commons with open access, hence reinforcing the link between commons and tragedy. The second type of commons has many names, but for now let's call it group access, a regime in which a limited number of commoners can exclude outsiders but not each other. If the ocean is open access, then a small pond surrounded by a handful of landowners may be group access. Group access is often overlooked even though it is the predominant form of commons ownership, and is often not tragic at all; it is the core concept that this volume celebrates.

State property resembles private property in that there is a single decision maker but differs in that resource use is directed through some process that is, in principle, responsive to the needs of the public as a whole. In recent years, state property has become less central as a theoretical category: intense state regulation of resources has dropped from favor and privatization has accelerated. Today, for many observers, the property trilogy can be reduced to an opposition of private and commons property, what one scholar calls simply "all and none" (Figure 1) (Barzel 1989).

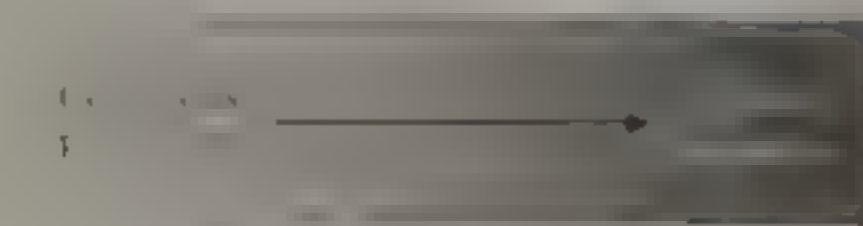


FIGURE 1: *The standard solution to the commons tragedy*

I believe a substantial cause of our cultural blindness to the costs of fragmented ownership arises from this too simple image of property. We assume, without reflection, that the solution to overuse in an open access commons is ordinary use in private ownership. This logic makes it difficult to imagine underuse dilemmas and impossible to see the uncharted world beyond private property.

Privatizing a commons may cure the tragedy of wasteful overuse, but it may inadvertently spark the opposite. English lacks a term to denote wasteful underuse. To describe this type of fragmentation, I coined the phrase tragedy of the anticommons (Heller 1998). The term covers any setting in which too many people can block each other from creating or using a valuable resource. Rightly understood, the opposite of overuse in a commons is underuse in an anticommons.

This concept makes visible the hidden half of our ownership spectrum, a world of social relations as complex and extensive as any we have previously known (Figure 2). Beyond normal private property lies anticommons ownership. As one commentator has noted, "To simplify a little, the tragedy of the commons tells us why things are likely to fall apart, and the tragedy of the anticommons helps explain why it is often so hard to get them back together" (Fennell 2004).

Often, we think that governments need only to create clear property rights and then get out of the way. So long as rights are clear, owners can trade in markets, move resources to higher valued uses, and generate wealth. But clear rights and ordinary markets are not enough. The anticommons perspective shows that the

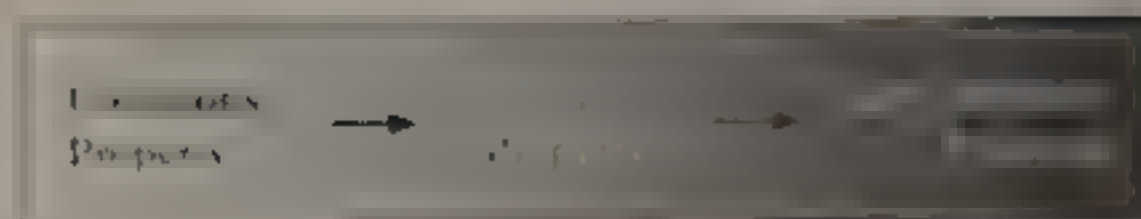


FIGURE 2: *The revealing the hidden half of the ownership spectrum*

content of property rights matters as much as the clarity. Wasteful underuse can arise when ownership rights and regulatory controls are too fragmented.

Making the tragedy of the anticommons visible upends our intuitions about private property which can no longer be seen as the end point of ownership. Well functioning property instead is a fragile balance poised between the extremes of overuse and underuse.

Lessons from the commons

Solutions to commons property dilemmas give clues to solving anticommons tragedy. To start, consider the distinction between open access and group access. This distinction can do some work on the anticommons side of the spectrum as well. For open access, like the high seas, states must command resource use directly or create hybrid rights, such as fishing quotas. The anticommons parallel to open access is full exclusion in which an unlimited number of people may block each other. With full exclusion, states must expropriate fragmented rights or create hybrid property regimes so people can bundle their ownership. Otherwise, the resource will be wasted through underuse. There is, however, one important respect in which full exclusion differs from open access: an anticommons is often invisible. You have to spot the underused resource before you can respond to the dilemma.

Group access in a commons also has an anticommons parallel: group exclusion in which a limited number of owners can block each other. For both group access and group exclusion, the full array of market-based, cooperative, and regulatory solutions is available. Although self-regulation may be more complex for anticommons resources, close-knit fragment owners can sometimes organize to overcome anticommons tragedy (Depoorter and Vanneste 2007). For group exclusion resources, the regulatory focus should be support for markets to assemble ownership and removal of roadblocks to cooperation.

Group property on the commons or anticommons side of private ownership is exponentially more important than the rare extremes of open access or full exclusion. Much of the modern economy – corporations, partnerships, trusts, condominiums, even marriages – can be understood as legally structured group property forms for resolving access and exclusion dilemmas (Dagan and Heller 2001). We live or die depending on how we manage group ownership. Now, we can see the full spectrum of property, as shown in Figure 3.

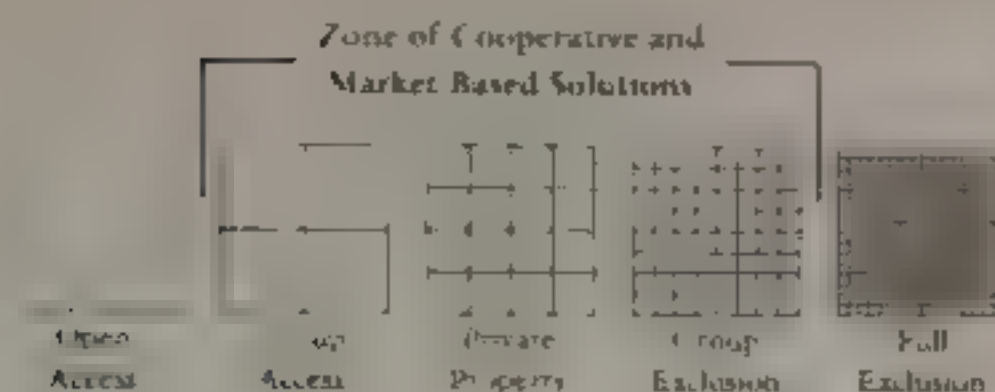


FIGURE 3: *The full spectrum of property, revealed (Heller 1999)*

The spread of the anticommons idea

After I proposed the possibility of anticommons tragedy, Nobel laureate James Buchanan and his colleague Yong Yoon undertook to create a formal economic model. They wrote that the anticommons concept helps explain "how and why potential economic value may disappear into the black hole of resource underutilization" (Buchanan and Yoon 2000).² In recent years, economic modeling of the anticommons has become quite sophisticated.

To date, the most debated application of anticommons theory has been in the area of drug patents and innovation (Heller and Eisenberg 1998). Since my 1998 *Science* article with Rebecca Eisenberg, there has been a flurry of follow-on papers and reports, many concluding that patents should be harder to obtain, in part to avoid potential anticommons tragedy effects. A recent book on the patent crisis concludes that, "the structure of the biotechnology industry seems likely to run high anticommons risks," particularly when companies are attempting to bring products to market (Burk and Lesley 2004).

It is not just biomedical research that is susceptible to anticommons tragedy. The framework has been applied across the high tech frontier, ranging from broadcast spectrum ownership to technology patents. Also, cutting edge art and music are about mashing up and remaking many separately owned bits of culture. Even well-landed, the most socially important projects require assembling multiple parcels. Innovation has moved on, but we're stuck with old-style ownership that's easy to fragment and hard to put together.

Anticommons theory is now well established, but empirical studies have yet to catch up. How hard is it to negotiate around ownership fragmentation? How much does ownership fragmentation slow down technological innovation? Does the effect vary by industry? It is difficult to measure discoveries that should have been made but weren't, solutions that could exist but don't. We are just starting to examine these conundrums. A recent study reported experimental findings that reject the presumed symmetry of commons and anticommons and find instead that anticommons dilemmas "seem to elicit more individualistic behavior than commons dilemmas" and are "more prone to underuse than commons dilemmas are to overuse." The researchers conclude that "if commons leads to 'tragedy,' anticommons may well lead to 'disaster'" (Vanneste et al 2006).

distinctions among private, public and common goods, but they do not convey the sense of human meaning, being and intersubjectivity that lie at the heart of any commons. Indeed, much of the literature on the commons fails to convey this sense of presence.

One sometimes reads that common goods are "rivalrous" (one person's use precludes another's use) and "non-excludable" (it is difficult or impossible to exclude others from using the resource).² These are ponderous claims, difficult to grasp in the moment (and also conceptually weak, as Helfrich notes in her essay in this volume). Could such non-intuitive definitions be a reason why the commons seem so abstract to many people? How can their ontological reality be recognized when common goods require so much analysis to distinguish them from public goods?

This article differentiates public from commons/common goods by examining many of the theoretical and practical assumptions that lie behind public property. The sections below address various facets of this distinction and explain why a broadly shared worldview of common goods is vital to the democratic future of the planet. Indeed, acknowledging the role of common goods in our lives can provide epistemological and political leverage points for transforming the global economy and creating globally representative governance.

To end the confusion between public and commons

The simplest way of contrasting a public and common good is to ask: Does this particular resource require management as a social mandate or is it an expression of social mutuality and collaboration? In other words, is this property best maintained by government or the public? This is a useful starting place, yet it raises further questions. What exactly do we mean by "public" and public goods? Postwar economists such as Paul Samuelson identified the non-rivalrous qualities of public goods and James M. Buchanan and Vincent Ostrom described their non-excludable aspects.³ These definitions seemed to corroborate John Maynard Keynes' theory widely adopted by Western governments during the 1940s-50s, that government intervention in the economy is a way to satisfy people's consumption needs through more jobs and higher wages. But Keynesian policies defining "effective demand" conflate individual purchasing power (a market force that spurs wealth-creating behavior) with "personal preference satisfaction" (a broader set of human needs and wants that includes non-market satisfactions). As a result, Keynesian economics virtually ignores the human desire for common goods. Government-stimulated spending and consumption identifies food, water, air, knowledge, community networks and social technologies as market goods, but not as naturally renewable or self-generated social resources. In short, state provision of public goods fails to account for the higher total net benefit that consumers would receive

through self-governance and social regulation of production and distribution of their own resources. Hence, the commons has no definitional reality in Keynesian economics.

Since the 1980s, the state has concerned itself principally with increasing the rights of private property, free markets and free trade.

This has shifted the meaning of "public" even further away from common property. With the advent of neoliberalism, the public sector now refers, not to citizens self-providing their own resources for their collective benefit, but to the institutions of government provisioning that claim to improve individual well-being through private market goods which are still called public goods. In a mystifying sleight of hand, the resources we use in common are identified as public goods and then deregulated and turned over to the private sphere for production and distribution.

As in the shell game of the magician, common goods disappear through the adept switching of categories: forget where you saw it before, which legal container now holds the good? In this way, goods that were once managed as commons or public goods – water, food, forests, energy, health services, schools, culture, indigenous artifacts, parks, community zoning, knowledge, means of communication, currency, and ecological and genetic resources – have either been privatized outright or remain public or common goods in name only. To call such goods "public" (by declaring them non-rivalrous and non-excludable) is to carry the Keynesian denial of common goods a step further, embracing neoliberal doctrines that ultimately seek to make all goods private goods (and thus rivalrous and excludable).

Not only does the commons vanish through this legal and linguistic shuffle, even the word "public" is stolen from the people. "Public" no longer signifies a community's authority to manage its local resources and express its own social or ecological demands; "public" now means the central governing authority to whom we have surrendered the control of these resources, which then meets our demand through conventional private markets. Everyone sees the growing discontinuity between the masses who are excluded from governmental decision-making (through partisan majorities, rule of law, executive administration and judicial decisions) and the relative few who dominate the process to advance their own private gain. Yet there is little outcry when the word "public" is routinely applied to both the excluded masses and privileged insiders. This facile, misleading use of "public" persists chiefly because citizens have lost their direct understanding and connection with the commons. The strong epistemological frame of reference that once linked the "public sector" to our collective potential for governing and valuing our own resources and asserting a countervailing authority to private markets, has virtually disappeared. In theory, public still means people; in practice, public means government (as captured by elite interests who regularly impede the people's political rights and capacity to control their common goods).

2) For more on the concepts of rivalry and excludability, see Silke Helfrich's essay on pp. 61–67.

3) *Ibid.*

To integrate producers and consumers

Understanding the distinction between public and common goods also helps in resolving differences in the roles and identities of producers and consumers. This is a crucial point. In the present system, the market creates value by enclosing a common area, whether material (land, natural/mineral resources) or immaterial (culture, ideas, digital space). A division of labor between producers and consumers is created through top-down, hierarchical structures in the flow of private and public goods. This is said to increase economic efficiency, productivity and quality while lowering the costs of goods and services.

Yet many alternative communities have developed their own sets of norms and rules to oversee their collective resources sustainably. Whether these commons are traditional (rivers, forests, indigenous cultures) or emerging (solar energy, collaborative consumption, Internet), self-organizing communities take collective action to preserve their local resources, both for themselves and for future generations. It is important to recall that the core principles of production and management in these commons are actually idealized by neoliberalism – i.e., spontaneous, self-regulating freedom (through markets) and rule-based equality (as enforced by the state). When consumers choose to become co-producers of goods and services through their own commons, however, their mutual, *integrative* work transcends the premises of neoliberalism. It is evident that the freedom and equality expressed through a commons does not result from privatization, centralized institutions or the top tier of a social hierarchy.

When the users of resources are directly involved in the process of production, their local ideas, learning, imagination, deliberation and self-corrective action are embodied directly in their collaborative activities. Unlike commercial delivery chains or the bureaucratic provision of public goods and services by the state, the autonomy of individual choice is best assured through the cooperative production of value and governance by resource users themselves. The decentralized, self-governing systems of co-production also offer fairer, more direct access to resources (and thus higher efficiency) than can be gained through distributive enterprises operated as private monopolies or state hierarchies. This expands the *domain of commons* to produce a society that *produces* a new *order* that is not imposed through the top-down systems of the modern market/state. Hence, common goods that are managed directly and locally constitute a realm of governance and production that moves beyond the modern division of labor.

To establish social charters and commons trusts

Discriminating common from public goods is a vital step in the development of covenants and institutions by stakeholders who depend on specific common goods for the *resilience* and welfare. When people across a community, practice or region take on the responsibility to sustain their own resources, they may formalize this through a social charter. The charter outlines a group's rights and *responsibilities* for a shared resource – describes patterns of relationships between the

resource and its users, managers and producers. Social charters have been developed for forests, pastures, irrigation systems, aquifers, springs, lakes, *libraries*, *co-working*, genetic resources, public health, energy, *art*, *scapes*, historic sites, cultural areas and political security regions. Social charters can also be applied to many other domains.

To make them operational, resource users and producers may develop a legal entity or fiduciary association of citizen stakeholders which operates as a trust. Commons trusts are generally created to preserve depletable resources (natural material) but many replenishable commons (social, cultural, intellectual, digital, solar) can also benefit from trusts that ensure their regeneration. Trustees set a cap on the extraction or the use of a resource according to non-monetized, inter-generational metrics such as sustainability, quality of life and well-being. For example, trusts can be developed for oil fields, aquifers and the atmosphere to ensure their long-term viability. Having protected a commons safely for future generations, the trust may rent a proportion of the resources under the cap to the private sector or to state businesses and utilities for extraction and production. A percentage of this rent could be taxed by the state and redistributed to citizens as dividends or subsistence income, with emphasis on the poor and socially marginalized. Rental or user fees may also be reinvested in the rehabilitation of depleted resources (such as land, rivers, oceans, atmosphere) and the enhancement of replenishable resources (arts, collaborative knowledge, digital codes, solar energy). A full-spectrum, commons-based economy could thus be created through a variety of such trusts: the commons would be protected for the future, the private sector would profit from producing the resources which they rent, and the state would tax these rents to restore degraded commons, fund social dividends and encourage free culture.

To develop a new identity for civil society

What segment of society could best sponsor commons/common goods apart from private and public goods? Beginning with the philosophy of Hegel, and differentiated increasingly in recent decades, civil society has identified itself as a "third sector" beyond the market and state. By defining the interests and advocating for the rights of the unrepresented, global networks, nongovernmental organizations, citizens associations and social movements have become a genuine voice of global public opinion. Indeed, many of the interests they are pursuing – healthy food, clean water, clean air, environmental protection, green energy, free flow of information, social technologies, human rights and indigenous peoples' rights – are common pool resources that could be managed as commons.

Yet these self-selected groups do not carry the authority of global representative democracy, since public opinion lacks the legitimacy of people's votes through an electoral process and thus does not increase their political equality in society. Without a credible political mandate, civil society typically challenges specific appointments, *regulate* authority, *subverts* its *power* or *structure*, *transforming* and *upholding* the *status quo* – a premises *of* *modernity* and *globalization* – the *production* of

individual rights, private property and sovereign borders), most civil society organizations support the embedded division of labor between producers and consumers and thus the enclosure of the commons. This leaves civil society co-dependent on business and government and vulnerable to exploitation. Unable to stand as a true opposition party, civil society faces a huge obstacle in establishing itself as a transformational alternative.

Here is where civil society can learn from commons groups the importance of involving resource users in the process of production. As noted earlier, the commons involve producers who consume their own goods. When resource users are also co-producers, their motivations, knowledge and skills become part of the production praxis, leading to new ways of interacting and coordinating social and economic life. A new production and governance logic of learning-by-doing then becomes possible. Civil society could apply this principle in its own work by embracing these innovative means of co-production and co-governance.⁴ For example, emerging forms of peer-to-peer creativity and management – such as free software, open hardware groups and the horizontalist decision-making demonstrated by Occupy Wall Street – can teach civil society organizations how to adopt open source (rather than market-driven) values and structures. By operating both as resource users and as producers, enabling local stakeholders to level⁵, their own political power, civil society groups could expand the scope of collective rights, moral legitimacy and civic power that exists beyond the state. Through discovering their necessary role in the global commons movement, the world's civil society organizations would develop a more dynamic basis for collective action: social solidarity and direct democracy than currently exists.

As catalysts for the integration of producers and consumers, many civil society organizations could evolve into local/regional councils and commons trusts, or perhaps form partnerships with them. The increased participation and political choices offered to citizens through these new accountability structures would transform economic, social and political decision-making at all levels of commons (local, state, interstate, regional, and global). This would resolve the present contradiction between the internationalist ideals of civil society groups for redistributing social and natural resources, and their financial and political fears of challenging corporate and state restrictions on the equitable access, protection and use of these commons/common goods. By fostering the collective production and governance of common goods through new forms of participation and trusteeship (instead of private/public ownership), the various movements of civil society, which are after all unelected and self-appointed, would become far more accountable to the people they claim to represent.

To vest sovereignty in global citizens

Discriminating common goods from public goods is crucial in recognizing our essential rights to the commons as global citizens. Presently, people's rights to global citizenship are not acknowledged or affirmed because citizen representation is vested in the state and does not go beyond the state level. As national citizens, we empower governments through an implicit social contract, bestowing legitimacy and authority upon the state in return for the public goods of protection, security, infrastructure and other services. In surrendering our deeply personal, subjective power of decision-making to government (which redeploys this power by granting corporations the right to produce and dispense private goods), the idea of an active citizenship with identity and purpose is gravely weakened.

Yet it is human beings as a collective who are sovereign – not their governments. The inalienable rights of people originate, not in authority over a territorial area, but through a customary or emerging identification with an ecology: a form of collective labor, a social technology, a community need or shared conviction, a cultural resource area, an ethnic, religious and linguistic affinity, or a historical identity. When groups of people recognize that the capacity of their commons to support life and development is in decline, this may spur them to claim long-term authority over resources, governance and social value as their planetary birthrights, both at a community and global level. These natural rights to every resource – the atmosphere, oceans, forests and species, food, water, energy and health care, technology, media, trade and finance – arise from a community's dependence on particular commons for survival and security, and from a duty to safeguard the welfare of future generations. The human need for sustenance and livelihood vests these local groups with a new moral and social responsibility to engage resource users directly in the preservation, access and production of their own commons.

Rather than seek individual or civil rights from the state, commoners declare their sovereign rights as global citizens to protect, access, produce, manage and use this shared resource. People's sovereignty for a commons is legitimated through global citizenship, and this global citizenship is legitimated through the local sovereignty of their commons. This is not circular reasoning; it is the expression of multi-scale decision-making and a planetary identity that transcends the authority of state institutions and recognizes the legitimacy of people's claims as trustees of the world's resources at every level of common property.

To refute claims of "global public goods"

Over the past few decades, the intergovernmental system has proclaimed its capacity to meet the needs of the world's population and environment through global public goods. This concept – a hybrid of Keynesian internationalism and corporate/financial neoliberalism – illustrates the lack of understanding and vision in the present management of the global commons. By the Samuelson, Buchanan/Ostrom definition, non-rivalrous and non-excludable public goods are said to be provided by sovereign governments to the citizens within their jurisdictional

leaders. But this model is not a system of power at the legislative level where democratic representative authority – *representative* – would be states in association in a global institution. It is a network of power public goods to the citizens of the world.

When a state competes across borders for economic resources (commodities, investment, credit) or political resources (strategic surpluses, military advantage, diplomatic sanctions), these goods are certainly rivalrous. Likewise, when a state fails to provide food, development assistance or technology transfers to alleviate poverty for its own citizens or those in other nations, millions of people are clearly excluded from access to these goods. In reality, the propaganda bubble behind “global public goods” is fueled by the market forces of rivalry and excludability inherent in private goods, which are profit-driven for the benefit of shareholders, rather than equity-driven for the masses. National governments simply do not have the interdependent power or legitimacy – nor are they designed – to protect, manage and distribute resources for the world’s people as a whole.

Yet the liberal myth of global public goods has tentacles everywhere. Under the present system of strong state sovereignty, noninterference across borders and limited multilateral cooperation, governments refuse to establish a representative basis for global resource sovereignty. Both the private and public sectors deny that the world’s collective action problems – access to food and water, universal health care, education, distribution of aid and technology, transborder safety and security, world peace – a just legal and political system, a pollution-free environment, clean air and an equitable economic system – can or should be managed as global commons. Meanwhile, the neoliberal commitment by states to private/public growth is destroying the planet and leaving people dispossessed of these collective resources, unable to express or realize the intrinsic value of their local, regional and global commons. It’s time for a rational conversation on the norms, rights and duties of every citizen for global common goods: the shared resources that must be negotiated and organized by the world’s people themselves.

To create a new global social contract

For legitimate forms of commons democracy to be rooted in and distributed across all political communities, a major reconfiguration of socio-economic relations, rules and institutions is needed. To this end, common goods offer the possibility of a legal and constitutional basis for democratic global governance. In bringing this platform forward, the world’s people must organize their local commons, declare their sovereignty as global citizens, and call upon governments to acknowledge the natural rights belonging to all human beings and life-forms across the planet. The people’s contract for global citizenship will empower resource communities and civil society organizations to create trusteeships, which include but transcend parliamentary forms of governance, giving them a democratic means for voicing local claims to self-determination outside the state system. By this means, national sovereign authority may be renegotiated in terms of commons resource areas and bioregions. Resource users and producers/providers would then make direct decisions on all common properties of

significant biodiversity and the spring, rain forest, and coastal commons for a species. Since every resource domain is unique and so many commons overlap, commons management would be deliberated through local, state, interstate, regional, and global stakeholder discussions. In this way, democratic commons institutions would operate at every level of governance independently while overlapping at the same time.

Obviously, the development of global governance is an enormous challenge. The basis of the sovereign state must be entirely reformulated. By agreeing to a new foundation for common goods in social and economic laws and institutions, the state will have to reduce the dominant role of private goods and recognize the moral and political legitimacy of people’s rights to preserve, access, produce, manage and use their own resources. This means developing a new epistemology of resource sovereignty, shared responsibility and legal accountability that recognizes the rights of world citizens to their commons. When the self-organized and participatory systems of common property, social charters and commons trusts are infused into global constitutional governance – the checks and balances that already exist within many nations will find a more perfect expression in the representative decision-making and political equality of democratic commons institutions. The new global economic system and its social contract will be grounded, not in corporate claims or state sovereignty, but in the sovereign rights of citizens to their common goods.

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Subsistence: Perspective for a Society Based on Commons

By Veronika Bennholdt Thomsen

Subsistence is the sum total of everything that humans need to survive: food and drink, protection from cold and heat, caring and company. If subsistence needs are met, life can continue (Mies/Bennholdt Thomsen 1999). Many aspects of subsistence – goods and activities – have been transformed into commodities, but by far not all of them. After all, not only children, but adults as well cannot exist without being directly nourished and cared for, without being attended to and given gifts. Certain vital elements of subsistence, the ones that signify humanity so to speak, cannot practically be commercialized. Accordingly, subsistence is defined as the realm of life beyond payment in a society otherwise permeated by the market.¹ Subsistence still belongs to modern human beings' everyday life experience, even if the globalization of markets has driven this fact from people's awareness. That applies to the commons too, on which our society again still rests.

Neither subsistence nor commons are vestiges of bygone centuries: on the contrary, they continue to fulfill necessary functions and embody perspectives that point to the future. Yet the opposite view is propagated. The privatization (of land and water and other things) and the commercialization of commons (for example, air or genes) – which restricts access or even eliminates them for many people, are actually considered serious solutions for global problems such as hunger and climate change. "To draw farmers from subsistence to commercial agriculture" has been the declared policy of the World Bank since the mid-1970s.

According to the World Trade Organization (WTO), the overall goal of globalized development policy lies in integrating as many areas relevant for daily existence as possible into the monetary and commodity-based economy. One example of this is the internationally promoted expansion of microcredit. The more needs are dealt with via money, the better and more developed a society supposedly is. The profound crisis of the growth-based economy, of which the ecological crises are a part, raises substantial doubts about this view.

1. "Subsistence production or production of life includes all work that is expended in the creation, re-creation and maintenance of immediate life and which has no other purpose. Subsistence production therefore stands in contrast to commodity and surplus value production. The latter is production for exchange, for the production of money, which produces ever more money... life is, so to speak, only a coincidental side-effect." (Mies and Bennholdt Thomsen 1999, p. 20)

What is taken for granted

Over the course of modernity, commons as societal institutions (Ostrom/Heltrich 2011) have increasingly been reified to being considered merely material objects. This reification process has a twofold interpretation: it is a consequence of the way in which the commons are perceived, and it is a consequence of the meaning of socially binding arrangements when it comes to commons: they mostly see only the object itself to which a societal convention refers. And where the material reality of the phenomena in question is immaterial and volatile – for example, the art or the knowledge about a plant's healing properties – they are reified by privatizing them and assigning them a monetary value – through the establishment of carbon emissions trading rights, for instance, or through the patenting of knowledge according to the WTO's regime for intellectual property rights.

Commons, however, reflect people's understanding of the elemental conditions of nature and human life, not as tradeable commodities. They reflect a set of values and a worldview that is increasingly becoming lost in modernity. In light of the nuclear disaster in Fukushima, it is becoming apparent where our arrogance in relation to the living environment has taken us. We act as if it were possible to technically produce and scientifically control nature in its entirety.

This "modern" mentality originated in the 19th century. But it is now considered obsolete – and not just in physics. Just as particles are not simply isolated bits of matter in quantum physics, commons are far more than the material of which they consist, and far more than the monetary value with which people attempt to capture their nature. They are part of a web of relationships, both concrete matter and a process in motion, all in one. But this understanding begins with the fact that they exist, just as we are given life, today just as hundreds of years ago.

In Latin, *subsistere* means "to endure in and of itself." Subsistence is what is necessary for survival and what belongs to every life – as unquestioned as the air we need for breathing. In addition to food and other necessities of life, the concept also includes the process of reproduction, which takes place anew every day – and this process too is by its very existence self-understood. Even the early working class in England shared the worldview of the "moral economy." That is the term which E. P. Thompson uses to describe the societal convention handed down over millennia by which it is never called into question that all human beings are to be provided with the conditions necessary for their lives to continue. It would be misleading to say that they have a "right" to these conditions, as this would imply the acceptance of a previous limitation.

Conceptualizing economic activity through the lens of subsistence – in other words, perceiving the subsistence perspective of economic activity – means to acknowledge that human life is part of natural processes.

The individual level and the societal level

The people in a society founded upon commons orient themselves toward what is necessary for a good life, and not toward using more and more consumer goods. They individually feel responsibility for what is common to all. Consumerism, in contrast, undermines the commons and finally society as well, as it undermines people's feelings of belonging to one another. We are currently experiencing the effects of this problem in our epoch of multiple crises.

Economic, ecological and social crises are merging to form a single one, a crisis of civilization. In light of the catastrophes that they have triggered, the values that characterize our current civilization are proving to be destructive. We need a paradigm shift worldwide: a shift away from egocentric consumerism, away from a society's structural imperative to maximize growth, and away from our arrogance with respect to the living environment. We, the people of our epoch, need new (old) societal institutions that are bound to a new (old) relationship of humans and nature.

We are not facing this situation empty-handed, starting points do exist in terms of the knowledge, cultural values and the natural conditions that are needed. At the individual level, every human being experiences the meaning and significance of subsistence via the unpaid and priceless care that is bestowed upon every child. Such types of experiential knowledge about commons provide us with means for reshaping life at the societal level.

The close connection between the individual level of experience and the sociocultural ability to comprehend commons as a gift of nature is formulated by Miguel D'Escoto and Leonardo Boff in Article 1 of their proposal for a Universal Declaration on the Common Good of the Earth and Humanity: "The supreme and universal Common Good, a condition for all other good, is the Earth itself which, being our Great Mother, must be loved, cared for, regenerated and revered as we do our own mothers."² It is taken for granted, that "our own mothers" are revered just as it is taken for granted that every human being experiences the care necessary for subsistence and the corresponding means of subsistence, simply because he or she is born as a human being. The egalitarian condition of all human beings is recognized – as we all are born by "a mother" (Bloch 1961/1997). There is a correspondence between the ideas that food comes from the Earth and life comes from women. This mentality, which is firmly anchored in people's personal sensory experience, supports the culturally binding worldview that all human beings are to be provided with conditions so that their lives can continue. That is why we need commons. They build an important bridge between the individual and the society on the way towards a socialization that teaches us to respect both what is given by nature on the one hand and our existential relationships with other people on the other, rather than destroying both.

Some, including Western gender feminists, reject the metaphor of "Mother Earth" because it ascribes a special significance to the human mother. They accuse

those who recognize the birth-giving capacity of women as a natural given of being essentialists. Hence, gender theorists deny the existence of the human beings forming part of nature as they do not acknowledge mothering as a fact of nature.³ Nevertheless, I would say that whoever shares this accusation should feel free to replace the metaphor Mother Earth with a different image – because the only important things in our epoch are images that help to unlearn the destructive values of the society of maximization and to learn equality anew (because we all exist through the same process of human birth), so that people feel and understand that what is given by nature cannot be appropriated and privatized: they have been given to all of us, just as life has been given to us. We need images that support the insight that a commons-based society requires the individual, everyday practice of subsistence.

Money is the problem, not the solution

In keeping with the dominant understanding that the feasibility of any plan is dependent on funding, the question of money is often raised too quickly in discussions about the realization of alternatives to the growth-based economy. Even if some projects to strengthen the commons cannot do without money, this does not alter the fact that the logic of money as we know it is a fundamental built-in error of current-day socialization.

For the civilization based on the economy of maximization, monetary value becomes the touchstone of all value. When value and monetary value are simply equated, the moral error is rarely noticed: that is how normal this reversal is. Time and again, I realize how morally depraved the reigning value system is. When I reread the first UN Millennium Development Goal – "Halve, between 1990 and 2015, the number of people whose income is less than \$1 a day" – I think, "And what about the other half?" The morals of the money-based world are light-years away from the humane moral standards that are taken for granted in the subsistence economy, namely that nobody should remain hungry as long as others have enough to eat.

One dollar a day! That stimulates concreteness, rebel that is allegedly intangible, tangible and reliable ("In God we trust"). But you can't eat money! The number as well as the dates and the number of people, is intended to signal authentic commitment and determination. In truth, more people on this planet are hungry today than at the beginning of the millennium.

The logic of money is that of a mathematical equation, an exchange of equivalents. Order is supposedly achieved through the objectivity (or tangible quality of an object) of an invisible hand, which is supposed to be superior to the disorder of diversity given by nature. In the present, this is proving to be completely wrong. The logic of money is not suitable as a moral foundation for civilization.

3 | According to gender theory, the sexual existence of the human being is exclusively a social phenomenon.

The perspective of subsistence and the commons

"It's your city. Dig it up!" This motto from the urban gardening movement includes all the elements that characterize the cultural transformation shifting away from the paradigm of growth and toward a society founded upon commons.⁵¹

- The public space, that is, the city and its open spaces, are considered to be commons
- The motto addresses the individual, the person defining him/herself as part of the commons community, by politically empowering him/herself beyond a superordinate, disciplining, possibly state-organized power
- It includes an understanding of direct communal capacity to act, as is distinctive of grassroots movements
- It is not about money but straightforwardly about subsistence. If we desire to create a society based on commons today, we need to take a subsistence-based perspective. And a prerequisite for action oriented toward what is required for a good life is consolidation of the institutions of the commons. Subsistence and commons strengthen each other

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Technology and the Commons

by Josh Tenenberq

"Jens had to cultivate a strong, unified mind to counteract the disparate landscapes, societies, conditions. He jumped from a monthlong spring hunt to a helicopter that would take him to Narsik to testify in front of Parliament. On behalf of the Hunters Council, he was working hard to ban the use of snowmobiles and prohibit fishing boats in Inglefield Sound, where the narwhal calve and breed in summer" (Hirlich 2003). This episode concerning a Greenlandic hunter in the early 21st century encapsulates the main theme of this paper: technologies, the policies that govern them, and their use in particular settings all contribute in dynamic and complex ways to their socio-political effects. Yet intended technological effects are not inevitable, as they are subject to resistance, adaptation, and appropriation by the actors within social settings. Technologies can both exacerbate commons dilemmas as well as contribute to their solutions. A keener awareness of the socio-political dimensions of technology is crucial to increase the likelihood that people design and use technologies to improve the human condition.

The politics of technology

The relationship of technology to politics and social order has interested philosophers, historians, and technologists during the last 50 years. One view exemplified by Lewis Mumford (1964), asserts that technologies have inherent political qualities: they structure social relations in their very design. "My thesis, to put it bluntly, is that from late neolithic times in the Near East, right down to our own day, two technologies have recurrently existed side by side: one authoritarian, the other democratic, the first system centered, immensely powerful, but inherently unstable, the other man-centered, relatively weak, but resourceful and durable." Under this view, rather than being used differently in different socio-political settings, technologies exert their own political stamp on society regardless of context of use: technology determines subsequent social development. Society is thus "engineered" through technology.

Winner expresses an alternate view, that most technologies are not immanently political, but that "the design or arrangement of a device or system could provide a convenient means of establishing power and authority in a given setting" (1980). Technologies are the means by which social actors achieve political ends. Winner

51 On the rediscovery of communal gardening in cities, see the essay by Christa Müller on pp. 219–224.

provides the example of Cyrus McCormick's employment of pneumatic molding machines in his manufacturing plant in the middle 1880s, not because they were more efficient, but because they displaced skilled workers – thereby shifting more power into the hands of managers within the political economy of the plant. Another way that social actors affect technology is in pursuing policies that serve their interests. For example, in a careful legal and historical analysis, Litman (2000) documents how the Hollywood studios, music companies and content industries have been the main actors in crafting copyright policy in the U.S. over much of the 20th century, with the public largely unrepresented.

A third view, promoted by Friedman and Kahn (2002), recognizes that technologies can have political effects – but that these effects are only partly a result of intentional design. As importantly, users of technology in local settings assert their agency to shape, resist, appropriate, and adapt technologies to their intentions. So, for instance, though the planners of Brasília (constructed in the late 1950s) might have had goals to create a thoroughly regularized and rationalized modern city through the very structure of the built environment – its immense (and largely empty) plazas, rectangular apartment blocks, separation of traffic from pedestrians, and segregation of places of work, commerce, and home – the actual residents had other plans. Incrementally constructing an “other” Brasília on the outskirts of the “built” Brasília, originating as squatter settlements of laborers, this non-planned Brasília came to contain 75 percent of the population of the city, winning political recognition and city services only through ongoing political action (Scott 1998).

I take the view that all of these elements – technology, policy, powerful social actors, and technology users in local settings – have complex and reciprocal influences on one another that unfold over time as the different actors plan, take action, and respond to the actions of others. Technologies neither operate autonomously and inevitably to shape social arrangements, nor do individuals and groups simply succumb to the social arrangements enforced by the technologies and policies designed and developed by powerful social actors.

Focal and non-focal effects of technology

Technologies are intentionally designed for particular purposes, nets for catching fish, saws for felling trees, telephones for communicating with others at a distance. These proximal, intended effects are what Sclove (1995) calls the “focal” effects of a technology. Yet it is easy to underestimate the complex ways in which people and technologies are intertwined, so that changes to technology sometimes result in far-reaching effects that extend beyond these immediate, focal effects. Technologies also result in what Sclove calls *non-focal* effects, the “pervasive, latent tendencies” of technologies to “shape patterns of human relationship” (Sclove 1995). These effects are often unintended, outside the focus of many actors in a setting when a new technology is introduced.

Sclove provides the example of Ibieca, Spain, where residents had indoor plumbing installed during the 1970s, replacing their mutual dependence on a village fountain. As a result, “women stopped gathering at the washbasin to

11. And by 1970, as people used water pipes, drinks were no longer needed for hauling water, so that they were more likely to be replaced by tractors for work in the fields, which in turn affected the dependence of the village on outside jobs. Thus Sclove claims, social bonds were weakened, reducing the possibility for collective political action. Both focal and non-focal effects are important to consider when technological choices (about designs, about policy) are being made.

Complex interactions between technology and people

In order to better understand the dynamics of the settings in which social groups interact (including but not limited to commons), Ostrom and colleagues have identified several key elements that can be thought of as the “working parts” of these settings (Ostrom 2005).¹ “These are: (1) the...participants, (2) the positions to be filled by participants, (3) the potential outcomes, (4) the set of allowable actions, (5) the control that an individual has, (6) the information available to participants, and (7) the costs and benefits – which serve as incentives and deterrents – assigned to actions and outcomes” (emphasis added, (Ostrom 2005). These elements can be thought of as having political import, i.e., they affect power and authority within a particular setting, because the actors involved craft rules that affect one or more of these elements, for example who can access a commons, who can sanction, what the actors know about the state of their commons and one another’s actions, how preferences are contained (such as “the elected leader decides” or “majority rules”), and the penalties associated with rule noncompliance.

Using these same elements, we can inquire as to how technologies affect each of them as an analytic means for examining the impact of technology – both focal and nonfocal – on the social order. For purposes of space, I provide illustrative examples of technologies that affect participants, control and information.²

The participants in a commons are the actors who can derive benefit from the commons (such as access to resources), participate in governance (such as rule making and enforcement), and/or be required to contribute to the maintenance of the commons.³ New technologies of transportation, such as the snowmobile in Greenland, mentioned earlier, can have the direct effect of bringing new participants into a setting. Nonfocally, this can strongly affect a commons, since new participants may place increased demand on resources. In addition, they may not share evolved norms that have developed by long-standing commons participants for sustainably managing their commons.

Who can participate in a commons is strongly influenced by technologies of exclusion.⁴ The historical record indicates the importance of these technologies.

1 | See also Ryan T. Conway’s essay on Institutional Analysis and Development (IAD), on pp. 15–26.

2 | See Tenenbergh 2008 for a discussion of all seven of the elements indicated above.

3 | Editors’ note: In this volume, several articles on concrete practices describe the ways in which commons participants are defined and how they interact. See, for instance, Patsy Sow and Uma Marmet on pp. 269–274 and Giotta Gallardo and Eva Friman on pp. 275–282.

4 | See also Silke Helfrich’s essay on pp. 61–67.

Technology also affects the way in which control is distributed among the actors in a particular setting. For instance, cutting guides and mechanical linkages directly constrain the motion of the human body when people use physical tools such as saws and lathes. Through the study of this kind of ergonomic micro-structure of technologically-enabled work in the early part of the 20th century, Frederick Taylor built sociotechnical processes to further structure human labor in the industrial factory. The new technologies and workplace policies were systematically designed so as to deskill labor – so that it could be purchased less expensively – and move control over production from the shop floor to management (Braverman 1974). And yet, nonlocally, as Kusterer (1978) illustrates from his study of “non-skilled” labor in a variety of workplaces, workers are never as compliant as these Taylorist designs suggest: they use ingenuity and learned expertise to increase production and quality as well as their own autonomy, by working around the managerial and technical constraints of the formal policies that management puts in place. Just as with the case of Brasília, powerful actors may

This invisibility of technical operations is one of the ways that technologies affect information, and it is not limited to computer technology. Technologies that do not enable transparency for such things as monitoring other participants' resource use can result in the abandonment or destruction of the technology. Lansing's example (2006) related to rice irrigation in Indonesia during the "Green Revolution" of the 1970s is telling.

To summarize from these examples, technology is designed for particular purposes, often by social actors with the economic power to direct resources.

1. $E = \frac{1}{2}mv^2 = \frac{1}{2}m\lambda^2 f^2 = \frac{1}{2}m\lambda^2 \frac{c}{\lambda} = \frac{1}{2}mc\lambda$
 2. $E = hf = \frac{hc}{\lambda}$
 3. $E = \frac{1}{2}mc\lambda = hf = \frac{hc}{\lambda}$
 4. $\lambda = \frac{2hc}{mc\lambda} = \frac{2h}{m\lambda}$
 5. $\lambda^2 = \frac{2h}{m}$
 6. $\lambda = \sqrt{\frac{2h}{m}}$
 7. $\lambda = \sqrt{\frac{2 \times 6.626 \times 10^{-34}}{9.109 \times 10^{-31}}}$
 8. $\lambda = \sqrt{1.45 \times 10^{-3}} = 0.038 \text{ nm}$
 9. $\lambda = 0.038 \text{ nm}$

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The Commoning of Patterns and the Patterns of Commoning: A Short Sketch

By Franz Nuhreda

What would you have to think of if you want to build a liveable house? Maybe you would start looking at the environmental factors, an identifiable neighborhood and green areas nearby. You would look at the building site and choose to improve what's there. You would create open space towards the south, and give it a distinct positive form. The building should gently absorb daylight and have different levels of intimacy. Common areas should be in the middle, located on the way in, and close to a kitchen and to the garden. And so on.

These concerns may sound trivial, but they are not. There are a thousand ways of doing things wrong – and only a few ways of doing things right. The choices depend on the situation, resources and goals. But what if we had a toolbox that would allow us to understand and combine solutions in a given field, such as architecture? That's the idea of patterns, an idea introduced by Christopher Alexander in the field of architecture (Alexander 1977).

The idea of patterns is to understand reality as a set of patterns that assume an intrinsic design for connectedness between elements of a "living" reality. In a nutshell, Alexander claims that "good" architecture mostly works by the recognition of the right choices to solve problems, and that good solutions can be found on the basis of proven experience of "what works" for human well-being and sustainability. These solutions can be methodologically described as "patterns" which combine theoretical "reconstructions" of well-working solutions with practical guidelines for construction.

A pattern thus can be defined as a proven solution to a common problem that can be identified, analyzed and reproduced. Almost anything can be a pattern, from physical structures to rules of behavior. Patterns ideally complement each other in efficient and creative ways, and tend to reinforce and enable each other's functions. Thus a "pattern language" helps disclose the manifold relations among design elements. By understanding the "grammar" of such a language, even a nonexpert can quickly gain a basic competence in a given field and understand and participate in design and development. Patterns are the best way to condense experience and enable people to go beyond theory and make the right decisions in practical situations.

Alexander developed such a pattern language with 253 patterns. They range from "Organizing the planet as a commonwealth of independent regions" to "using things from your life rather than inauthentic decor for interior design." His patterns span a universe of relevant influences and interdependencies in towns, buildings, and constructions. His innovative method of identifying components by their mutually reinforcing and life-building relations has been successfully transferred to many diverse fields such as object-oriented programming, pedagogy, and political activism. More of these conceptual transpositions seem to be in the works. Some claim that this pattern-based process is heralding a scientific revolution that reverses the shortcomings of analytical and isolating methods that have dominated science since René Descartes. Such a science would allow for more coherent views of a field and eliminate the odd structural contradiction between theory and practice.

In his later work, Alexander left the narrow domain of architecture and sought to analyze what lies behind patterns in general. In a very crude way one could say that what lies between patterns are universal laws of life. Or, to be a little bit more precise: patterns are the properties of structures that facilitate the persistence and interplay of different kinds of what we would call energies and potentials. Patterns are like containers for complex, living processes whose energies result in "wholeness," "proportion," "synergy" and "beauty." They are the condensed experience of many successful creations. They talk to us by a "quality without a name," and are recognizable to intuition. They demand visualization, and not just sequential description.

The schools of thought inspired by Alexander have subsequently developed the concept of "anti patterns," which are social practices that diminish vitality and sustainability. The cult of the gennas in current architecture results in buildings that are often not liveable. The management of societies through punishment breeds the very depravities and criminality that it claims to prevent. Thus anti patterns are by no means to be taken for granted – moreover, they are often ignored and suppressed.

I suggest that patterns are a central topic – and maybe even a methodological requirement – for those interested in the commons. There are three main reasons. Patterns are a common denominator for all kinds of social and cultural practices that allow us to consciously shape our world. They designate knowledge resulting in vital, sustainable, fruitful reality. They allow us to generalize what works. Thus they are the ultimate intellectual commons. Commoning of patterns is an old tradition in many professions, crafts, and disciplines. Wherever patterns are respected, there is a social process that lies behind them.

In a time when everything can be produced easily with machines and automation, capital is shifting its methods of growth from its traditional ways (production) to outright "feudal ways" (taxation). In a time of immense devaluation of products by automation, success lies in asserting the ultimate gains through ownership rights to successful patterns, which confers an ability to tax others to use the pattern.

Thus labor and capital are slowly moving apart, a long marriage ending. Patterns of production and products are therefore the strategic nodes that privatizers exploit as they seek to establish their (lucrative) traps to hinder and forbid any successful competitive activities – or, simply seek to exploit them by trading the licenses. Think of biopiracy and bioprospecting for the sake of commercializing indigenous knowledge. Think also of the gross expansion of patents in all domains of technology. One could think of today's economy as a big preventive endeavor against commoning by enclosing the very essence of free, autonomous labor, the knowledge, experience and procedures required in all professional fields. This enclosure grows as networks and technologies would make it more and more feasible to share knowledge in larger scales and produce in smaller scales – a deadly danger for capital, which needs to do exactly the opposite.

The practice of commoning itself may be understandable as a set of interrelated patterns. Rather than deriving from one single point of departure or axiom, commoning is the product of a multitude of practices that may take many different forms, according to the nature of the collective resource it is built upon as well as many other factors. Thus a pattern language of commoning may be a way to prevent dogmatism and schisms in the commons movement – a way to acknowledge unity in diversity while expanding the applicability and vitality of the core concepts.

The commoning of patterns

It is important to see that patterns are more than snippets of cultural heritage; they are even more universal in nature. Their essence lies beyond identity and tradition, even if tradition and culture are the most fertile ground through which to discover patterns. Ideally a pattern community consists of people rooted in cultural traditions yet oriented towards global cooperation. Thus, the essential question is: where is a group of people or a community to effectively take care of a shared resource and shape a whole environment, sets of behaviors, institutions, etc.?

We might compare the emerging "pattern communities" to the traditional "scientific community." Although universal in its approach, the latter distances itself from the practical uses and applications of knowledge. There are many ways to reflect on practical use and effects like technology assessment, still science treats its object in isolation and "neutrally" and often reflects on practice in hindsight.¹ Pattern communities on the other hand seek to reflect constantly on the interchange and interplay of their objects with human practice. We find analogies

1 | There are new approaches like "transdisciplinary research" that are aware of this dilemma. But they often lack a clear methodology to include a multitude of perspectives. Pattern languages are a way to organize the theoretical field in a way that is open to almost anything. They are not a method, but a way of thinking that influences and coexists in a given field of reality. It is interesting that

... patterns are not just abstract concepts, but they are always in immense interplay with spatial reality. Pattern communities therefore not only allow for inclusion of practical perspectives, they live on them.

1 | Object Oriented Programming treats chunks of code as entities that can be treated like objects with properties and behavior. It is not only a way to accelerate coding, but also a way to make code reusable and more understandable.

in old guilds of craftsmen or engineers associations. However such a variety of mandala networks were then overshadowed by professional, unipolar and political power plays. Knowledge was often withheld from non-members. Pattern communities in the full sense – as we envision them – constitute a self-organized society of learning, knowledge and self-determination. They might even be managed by experts, based on the essentially democratic idea that the modern individual should not be bound to specific roles in the division of labor.

A good example to meet the full requirements of a pattern community seems to me the communities around PLoP, the Pattern Languages of Programs, or of Direct-Method programming. As Brad Appleton, founding member of the Pattern Patterns Group, puts it: “Forming a common pattern language for conveying the structures and mechanisms of our architectures allows us to intelligibly reason about them. The primary focus is not so much on technology as it is on creating a culture to document and support sound engineering architecture and design.”³

The ambitions of pattern communities are enormous. The maintenance of a common body of knowledge, the distillation and identification of the patterns having the highest potential, the presentation of them in intuitive ways – all of these will only exist if the social interest in providing the necessary resources can successfully organize itself.

So we need to ask the question, What is the social base of a successful commoning of patterns? What type of lifestyle as well as economic logic can beget the constant exchange of knowledge, generous sharing, and the collective refinement and abstraction of good solutions? What is the lifestyle and economic logic that can discourage or prevent patterns of separation, monopolization of knowledge and predatory abuses of ignorance?

The answer might be manifold and ambiguous. Commoning can serve the practical needs of individuals and businesses who are too “weak” financially to compete or trade in the realm of intellectual properties. It can be found in the practices of those who seek autonomy and community-based production. It can be found in traditional institutions that had their original framework in nation states and now see that a global educational commons serves their purposes well. It can be found in international organizations, professional organizations, cooperatives, associations of educators, and so on.

Seeds of pattern communities are emerging in many different domains, also in the heart of scientific communities that have largely weakened their traditional focus on cooperation since they have become more oriented to business applications: obtaining patents, compete for funding, etc. While many universities are busy trying to accumulate patents,⁴ for example, some are beginning to rediscover the value of generous sharing and form transdisciplinary communities around “pattern repositories.” They understand that knowledge will best develop if it is shareable and expandable – and open for review and improvement.

The patterns of commoning

We can surely say that patterns – in whichever field – are ideally organized as commons. Can we also say that the commons themselves are a set of patterns? Can we identify successful practices that constitute commons and make them bloom?

The first pattern of commoning we have just met on the way – It is the passive competence pattern⁵ that reflexively favors sharing of knowledge with “non-experts” and outsiders. One might think that this is a pattern only applicable to intellectual commons. But if we look deeper, we begin to understand that this is a vital necessity for material commons as well. No commons can exist without widespread knowledge of its nature and wide, broad access to it. I expect for the groups, institutions, and arrangements that care for it. In Austria, we have a very fine public water system, bringing the water that supplies Vienna from mountains almost 200 kilometers away. I like to think of that as a vast commons, not just as a public institution. There are many educational tours that make people aware of the pathways the water takes, of the many maintenance requirements, and the periods of scarcity and abundance that we can partly but never fully mitigate.

So if a central group of experts and maintainers is needed to guide and guard a commons, how do they themselves organize and get accepted and supported by their environment? There are patterns waiting to be found. We have heard that commons may be mostly built around a social charter.⁶ But that might not be the ultimate ground of what holds a commons together. In his contribution to this book, Andreas Weber talks about the natural or “biological” paradigm of an ever-deepening process of exploration, in which individuals discover their roles and niches in a system of mutual dependencies.⁷ Social activist Rob Hopkins, who co-founded the Transition movement, seeks to abandon strict charters in favor of pattern languages as a “playground” for experimentation and development built on experience. He gives the following rationale:

Transition has a number of qualities, which include the following

Viral It spreads rapidly and pops up in the most unexpected places

Open Source It is a model that people shape and take ownership of and is made available freely

Self-organizing It is not centrally controlled, rather it is something people take ownership of and make their own.

Solutions focused It is inherently positive, not campaigning against things, rather setting out a positive vision of a world that has embraced its limitations

3 | The term “passive competence” stems from linguistics and means to be able to understand a language without necessarily being able to speak it actively. Passive competence means therefore to understand what an expert is doing without necessarily being an expert oneself. Passive competence is grossly neglected in our education systems.

6 | See James Quilligan’s essay on pp. 71–81.

7 | See Andreas Weber’s essay on pp. 6–12.

3 | Brad Appleton, quoted in <http://hillside.net/patterns>.

4 | See www.gong.manchester.ac.uk/odp/html/index.html or the “Design Pattern Repository” of the Aristotle University of Thessaloniki, <http://perceraa>.

Iterative: It is continually learning from its successes and its failures and redefining itself, trying to research what is working and what isn't.

Clarifying: It offers a clear explanation of where humanity finds itself based on the best science available.

Sensitive to place and scale: Transition looks different wherever it goes.

Historic: It tries to create a sense of this being a historic opportunity to do something, extraordinary – and perhaps most importantly of all

joyful: If it's not fun, you're not doing it right.

Any pattern language designed to communicate Transition therefore needs to be able to embody these qualities.⁸

Hopkins then describes some very interesting patterns. For example, patterns like "dealing with grief," "constructive criticism," and "civility" are meant to overcome feelings of individual superiority and establish communication between the core group of innovators and the outside world in an effective way. Patterns like "critical thinking" and "measurement" are balanced with "visioning" and "arts and creativity." But there are also patterns like "baking a cake" that serve to capture energies of celebration within the movement.

It might not be too speculative to say that pattern languages themselves might prove as an essential tool or pattern for commoning. The knowledge guiding our action is brought into a form that allows collectives to evolve, seek balance, trace, and value experience and allow them to synthesize the best solution in a given situation.

The narrative that strikes me most in this context – and which makes all the difference in the world when it comes to the distinction of public and common – is the narrative of the Native American Medicine Wheel. Of course this is not one single narrative, but rather a polyphonic one transmitted by several oral traditions. So while my access to it was subjective,⁹ I will try to extract the essence of what I feel is another fundamental pattern of commoning – The Circle.

The circle seeks to encompass all concerns and aspirations within and even outside a group; it treats them as equal.

The circle is about review, affirmation, and innovation of social practices.

The circle is organized in a ritual way, forcing people to listen and speak with full attention and from a clear perspective that represents an individual situation and a social concern alike.

The circle seeks to weave together those concerns that include creativity, an awareness/sense of reality, emotions that guide us to the perception of threats and opportunities, a sense of purpose and identity, learning about tools and resources, anticipation of future developments and strategy, the need for clarity in decision making and the sense that all voices have been truly heard and considered, and a conviction that the decision is giving a good perspective to all involved.

The circle will continue to run in an iterative process until optimal consensus has been found.

It is noteworthy that this circle pattern is not limited to small numbers of individuals, but is even applied as a system of governance between groups and nations. The ideal is that at any level of a successful solution, a living and nurturing relationship between very different elements will be found, and that the sequence of perspectives to create this relationship is by no means arbitrary. The eight perspectives included above follow a strict pattern of building upon each other; any other combination will fail to produce the desired result.

Can we apply such patterns in today's emerging common practices? We probably will have to, since commons are not possible without balance-seeking processes whose fruits we cannot fully foresee. We need to introduce complementary patterns that facilitate the dynamics of economic relationships. We need to explore patterns of communication that allow us to establish working cooperation and innovation. We need to identify the optimum sizes and qualities of our habitat. We need to balance privacy and individuality with our mutual dependence.

Pattern languages will help us to avoid schematic thinking and grasp the deeper complexity and the degrees of freedom involved in a world that is evolving into true togetherness – because the ways of command and control of money and power and conventional economic thinking, have proven to be way too primitive to solve the problems they have created.

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Franz Nahrada (Austria) is a sociologist and networker in Vienna who runs a family hotel and collects information about the building blocks of sustainable communities that fully thrive on global knowledge commons (Global Villages Lab). His activities can be followed via <http://globalvillages.org> and <http://transitionaustria.hung.com>.

8. <http://www.transitionaustria.hung.com>, introduction.

9. By the teachers WindEagle and RainbowHawk of the Chasma Institute: <http://www.chasma.org>.

The Abundance of the Commons?

One of the most spirited panels at the International Commons Conference in Berlin, Germany, in November 2010 dealt with "The Generative Logic of the Commons." Is there indeed "abundance" in the commons, especially ones based on natural resources? Or do such ideas amount to a denial of nature's finite limits? We continue this conversation here.¹

Silke Helfrich: Roberto, when you talk about "abundance in the commons," what are you talking about?

Roberto Verzola: I am talking of three things: the abundance of free – or low-cost information and knowledge thanks to new information and communication technologies (ICTs); the abundance that continually asserts itself in biological systems despite human abuse and misuse, and the material abundance possible through the conscious design of closed-loop production processes fueled by renewable energy.

Picture a bottle. You can bottle water, food, air and most other goods for sale. If you use up the bottle's content, it's gone. But learning from a bottle of ideas will never deplete its contents. When we share ideas, we end up with more than we started with. That's *information abundance*. Thanks to new ICTs, we can now share research, and access much more of the world's storehouse of knowledge than was possible in the past. Then, think of DNA. Nature also bottled them into genes, cells, organisms and species, and put an intrinsic urge in every living organism to reproduce one's own kind. That's *biological abundance*. And finally, consider a factory. Disarranged, it will produce little or nothing at all. But arranged in just the right way, it will start producing goods. That's *organized abundance*.

Helfrich: "Biological abundance" reminds me of Andreas Weber, a contributor to this book, who once said, "Nature as a whole is the paradigm of the logic of the commons from the beginning. Nothing in nature is monopolized, everything is open source."

Verzola: Yes, nature's abundance is hard to miss: bacteria can double in number every half hour; some plants release a million pollen in a day; fish can release one to ten million eggs in one breeding season; a rice grain can produce a thousand grains in a planting season. In seas, reefs, lakes, swamps, grasslands, forests, and

other ecosystems, abundance is a norm. It's true that at a human scale we may damage these ecosystems, but left alone, the abundance reasserts itself. Nature does not grow without limit, but it has no time limit. Species form into self-limiting food webs, creating balanced ecosystems that provide us with perpetual streams of new soil, clean air and water, food, stuff for clothes and houses, medicine, fuel, and other goods and services. By the way, nature is not only about interdependence. It is also about walls and barriers, to protect itself from an "outside." Aquatic species, for example, can release egg and sperm into the same waters, but a sperm can fertilize no other egg but its own type. Genetically, species are virtual autarkies.

Brian Davy: As an ecological economist I find these ideas somewhat disturbing. Of course, the knowledge commons have much to offer. Sharing ideas without intellectual property constraints will help us, since much of a chair's production or a car's production is intellectual production. Sharing energy and pooling production arrangement and infrastructures will help too. But "abundance" as a message tends to neglect that there is a difference between an abundance of information and an abundance of material products – it takes energy and materials to produce objects. There can be an abundance of recipes at the same time as a shortage of food. Even the digital commons is based on an energy guzzling infrastructure consisting of computers, the power supply, etc. Although well-meaning designers can engage in open source design processes trying to reduce the energy usage and material throughput in the maintenance of the Internet infrastructure,² the digital commons is not free. Making a personal computer costs 1800 kilowatt hours in electricity before it is even used. In my view the creativity that is fired up by knowledge commons cannot in and of itself lift the limits to growth. So, although the abundance of information will be helpful, it has a limited potential to mitigate the decline in production that is likely to arise through energy descent. In my view, the notion of abundance tends to wish away that the Planet Earth has simply a limited ecological carrying capacity.

Verzola: To play down the Internet because it provides recipes but not food is to miss its biggest benefit, which is our new ability to search, access, and share information and knowledge on a global scale in ways that were simply not possible in the past. Remember the saying? "Give someone fish and he'll eat for a day; teach him how to fish and he'll eat for a lifetime." Don't look for food from the Internet. Look for sustainable ways of growing food, building shelters, and revitalizing our communities.

Sure, the Earth's mineral abundance is nonrenewable, and Peak Oil will, soon or later, happen.³ But there is always a way to turn low-tech energy production into closed-loop processes. Permaculture, for instance, designs farms that emulate an abundant ecosystem like a forest by putting together what is in effect a self-regenerating forest of useful crops. In industry, recycling is just a first

1 | Additional information can be found at http://p2pfoundation.net/Abundance_of_Food_vs_the_Abundant_of_Recipes.

2 | See also the essay on peer-to-peer production projects by Christian Sielkes on pp. xxx–xxx.

3 | McKay, David J. C. "Sustainable Energy – Without the Hot Air," MIT Cambridge, 2009, p. 94, at www.davidmckay.org/.

step. The life cycle of every product must be reviewed to move towards true zero-waste production. We have to increase throughput and flow rather than accumulate and then use up stock. This is organized abundance, by design: when, through the right combination of production components, functions and processes, every byproduct is used in another production process and the whole thing is fueled by renewables. That is a long way off, though.

I think that focusing on the three types of abundance above will in general reduce, not raise, energy consumption. Yes, the energy efficiency of the new ICTs can be improved further. But we must look not only at their absolute energy consumption but also at the much higher consumption of the transport, manufacturing and other smoke-stack technologies that the new ICTs replace.

Wolfgang Hoeschele: I think we have to add that we also should keep our eyes open to the simple ways of using renewable energy sources that don't require technology. For example, every time we hang our clothes to dry, we are using abundant solar energy.

Davey: I can accept this to a certain extent, but we also need to get a grip on the key fact that there are absolute limits. This is also true for the amount of solar and renewable energies available, no matter how ingenious we engineer an infrastructure to capture it, and no matter how good we are at capturing it in biomass. If we want the commons to produce "abundance," we have to be aware of the fact that the power of raw sunshine at midday on a cloudless day is 1000W per square meter – but that is 1000W per square meter of area oriented towards the sun! To get the power per square meter of lateral area in Britain, where I live, we need to compensate for the tilt between the sun and the land, which reduces the intensity of midday sun to about 60 percent of its value at the equator. And of course it is not midday all the time.

Globally total incoming solar radiation is 122 Petawatts, which is 10,000 times greater than the total primary energy supply used by humanity. However, given the low density with which it falls across the whole planet, harvesting it for production processes is a costly and energy-intensive process. Many current ideas for harvesting solar energy assume that we can do this through biomass and plant photosynthesis. Permaculture has much to offer – but it cannot resolve the fact that in Britain, there is only 100 watts falling per square meter of flat ground on average for plants to harvest. Nor can human ingenuity do much about the fact that the best plants in Europe can only convert 2 percent of solar energy into carbohydrates. Humans already appropriate 30-40 percent of Net Primary Production of the biomass as food, feed, fiber, and fuel with wood and crop residues supplying 10 percent of total global human energy use. In Europe, 70 percent of all plants are appropriated by humans. Similar things can be said about other renewable energy. The room for maneuver barely exists, if at all.³¹ No renewables will ever be able to provide an "abundance" if, by abundance we also mean material production abundance.

31 | See Vaclav Smil's monumental study *Energy in Nature and Society: General Energetics of Complex Systems* (MIT Press, 2008), pp. 382-383.

Hoeschele: Let us put the argument this way: material resources are abundant if they are used in non-depleting or non-degrading ways – for instance, breathing air or resources that are plentiful enough to meet people's needs – such as fisheries in places where people fish only a small portion of the sustainable yield.

Helfrich: Then we are actually talking about an "abundance with conditions," a concept that may help us to go beyond the traditional eco-argumentation, which, as Franz Nahrada points out, usually "aggregates quantitative aspects of production processes and reproductive capabilities without looking at the interplay between them." Michael Braungart, the father of the Cradle-to-Cradle principle,³² uses a simple image to illustrate this. When you have badly designed material production that produces waste (in an unholy alliance with an economic system based on consumption – where we need to consume to make "the economy go round"), each additional activity in this badly designed production will increase scarcity. But if a scarcity we create by the way we produce and consume. The alternative is to design products as "parts of cascades of material re-use and up-cycling," as Braungart suggests. And here is again where the (knowledge) commons come into play. If we want the commons to provide us with food and fuel and stuff, each activity has to be designed in such a way that it increases the base for other activities and thus creates abundance – which in my point of view is enough to meet everybody's needs.

Verzola: Exactly. The problem is that most economists today assume unlimited demand due to infinite wants. Under such assumptions, abundance is indeed impossible. But if people get satiated, then demand is finite and abundance becomes possible. Remember Mahatma Gandhi who said: "There is enough for everyone's needs, but not for everyone's greed."

Helfrich: I agree – but let me come back to the issue of production design. During our post-Berlin-Conference conversations, Franz Nahrada suggested that the decisive factor to redesign the way we produce is the interplay between our growing availability of information, code and knowledge and the material world. What matters is our ability to conceive and design self-feeding and self-supporting cycles and arrangements that can permanently harvest systemic gains from other inputs – for example, using the excess heat of a large server farm to warm human settlements. This is a systemic gain that results purely from design.

Hoeschele: So far, so good, but there is another problem, which you already referred to. It arises from the very design of the dominant economy. It is certainly the major barrier to triggering those "cascades of abundance by self-feeding and self-supporting cycles and arrangements." Oddly enough, mainstream economists and market players often deny real material limits (they suggest unlimited abundance of resources such as petrol) while at the same time telling us that we

32 | Cradle to Cradle design, or "C2C," is a school of design that seeks to emulate natural processes so that all waste can be treated as inputs to useful processes, much as an ecosystem recirculates all material in circular regenerative flows. This requires a holistic approach that attempts to make economic, industrial and social systems more organically interdependent and waste-free.

always face scarcity because our unlimited wants will always exceed the available resources.

For example, they will say that there is no basis to assertions that we will soon face peak oil.⁶ But if somebody suggests that we run out of oil in Alaska or Ecuador, or anywhere else, then this particular oil is considered essential for our economic development. Meanwhile, any efforts to consume less oil by driving less are considered "bad for the economy" because that will generate less employment. You are supposed to consume more even if you personally have no interest in consuming more, in order to "boost employment." People are said not to be altruistic – but then they are asked to consume more for altruistic reasons!

Helfrich: "Consumption for altruistic reasons" – could you explain this more?

Hoeschele: Our present economy is designed in such a way that it sees no value in abundant resources because you cannot sell them at a high profit margin. You cannot package air for breathing and then sell it to somebody. Where fish are abundant you can sell them, but only at a modest price. In other words, only exchange value is recognized; use value is not. But use value is what matters in the commons. Today it is advantageous for entrepreneurs to make abundant resources scarce so that they can then be sold at a higher price and generate more exchange value. For example, if demand is increased beyond available supply, the goods become scarce. Think of the hype around iPads, or bottled drinking water sold at a price up to 10,000 times the cost of tap water by suggesting that it is more pure. The argument I make in my book⁷ is that the work of making abundant resources scarce is not left to individual initiative but is done by scarcity-generating institutions such as inequitable property arrangements, gender and racial hierarchies, car-oriented urban planning, and a money system dominated by central banks. Scarcity can be produced by manipulating either the supply or demand of a commodity such that demand exceeds supply. In this sense, there is scarcity even when there is a huge amount of production or if there are plenty of resources available.

Helfrich: In short, our current economy cannot deal with abundance!

Hoeschele: One can put it this way: Our current economy maximizes inefficiency of consumption in order to generate the demand needed to justify ever-increasing production and therefore an ever-increasing consumption, or waste, of natural resources. That is the very problem. Remember – our economies depend on an always growing GDP. In such a context, increased efficiency of production does nothing – or not enough – to address issues of "resource limitedness." If it would do so, it would destroy our economic system. But if we remain addicted to oil while supplies diminish, prices will skyrocket! This is why oil companies tend to downplay the imminence of diminishing oil supplies.

[6] Hoeschele, Wolfgang: 2010, *The Economics of Abundance: A Political Economy of Freedom, Equity and Sustainability*, Aldershot, UK: Gower Publishing.

Helfrich: Does that mean that we can benefit from the potential of abundant resources only if we become more independent from both finite resources such as fossil fuels and from the restraints built into our economic system, which forces market players to make resources scarce in order to convert them into commodities?

Hoeschele: I think so. And independence means freedom. We'll all be more free as a result! If we refashion our cities so that everybody can get around, including the old, the young, the poor, the rich, the ones who own cars as well as the ones who don't, then a lot of our dependence on oil evaporates, and at the same time we have more choices about how to move about. If oil prices decline because we don't need that oil anymore – then we've got abundance, and we've brought down those oil corporations as well! Our food systems are also built on scarcity, where growing food only makes sense if it's sold at a sufficient profit margin. Reviving subsistence-oriented production, community gardens and the like can make good, healthy food available at low cost, something that commercial agriculture is too often unable to do.

An economics of abundance seeks out these kinds of strategies of providing for our needs – it is not an economics that assumes that abundance exists, but one that analyzes modes of scarcity generation such as the ones I mentioned above, and that points out ways to counteract them. Just as scarcity is socially constructed (and is very real, as real as a humanly constructed building), so also abundance has to be created. Under current circumstances, this is a daunting task – but one that we must face. In short, my contention is that real material limits to resources exist, but that we can also live in abundance – defined as the condition when all people – now and in the future – are enabled to thrive.

Davey: I am glad that Wolfgang has defined what he means by abundance. What still is lacking in this discussion is a definition of abundance that we agree on. However, Wolfgang's definition is not the one that I would use. My Oxford Dictionary of English defines "abundance" as "quantity more than sufficient; plenty... affluence; wealth." This is what I've been taking it to mean.

I totally agree with the notion of striving to organize the economic system to promote well-being – and defining well-being as "the condition that all people – now and in the future, are enabled to thrive."

And I think that this well-being would involve a condition where people do not have to worry about their material needs because they have sufficient resources for these needs and can therefore devote themselves to their free creative interests and the improvement in the quality of their relationships. I agree on the importance of that.

I also agree that the current economic system deliberately seeks to promote dissatisfaction with what people already have in the interests of selling more. This creates a feeling of scarcity and want where really people already have more than is sufficient. They certainly do in developed consumer societies. Further, this promotion of dissatisfaction fosters a motivation system that is not associated with psychological well-being. It is based on extrinsic motivations, where people do things because of the money or status but not because of the intrinsic value of doing them. There is also the encouragement of a narrow individualism so people fail to

act fully as members of communities and see their place in nature. Therefore, I think "abundance" would be a ~~useful~~ helpful word to address these issues and help people to become more fulfilled. It doesn't matter a lot that one cannot, in my view, have material abundance for all because it is not in that direction that a satisfying life lies.

Verzola: I'd like to add one more idea. People should become aware of the various sources of abundance for another reason. The same institutions that create artificial scarcity also want to monopolize the sources of abundance, and for exactly the same reason: profit. ~~For example~~ However, sources of abundance are often part of ~~the commons~~ (knowledge, natural resources, infrastructure, etc.), people have a right to their use, to a voice in the decision-making, and to a stake in their ownership.

Helfrich: Brian, you once said "I think a movement based on abundance is more likely to attract armed men than a movement based on sufficiency." Do you stick to this statement?

Davey: Well, words and messages are slippery. I still think the slogan of abundance has the potential to be misleading, and misled people might get angry. Once put into circulation other people may not use it as we would like. I think it is better to have a clear message about the need for collective psychological adjustment to the limits of our world – for sharing fairly and seeking life satisfactions that are different from the activities and goals of a consumer society. In fact I think that we agree on that.

Verzola: Brian, "abundance" is not just a slogan, it is a real phenomenon, both on the Internet and in nature. We can make it visible. Even from a purely economic perspective, it is impossible to miss the abundance that keeps reasserting itself within ecosystems. Some scarcities, of course, are just as real. But it seems more important to me to watch out for artificial scarcities, as Wolfgang points out. And we must be wary of pseudo-abundance. Nonetheless, if we want to create real abundance to attain a minimum level of material comfort for all, we must master abundance concepts so that we can, by conscious design, build cascades of abundance for the good of humanity.

Davey: When you, Roberto, argue for emphasizing the abundant side of reality if the other side appears gloomy, I don't accept this at all. We must stay in touch with all sides of reality, no matter how painful. Sometimes things are as bad as they seem, and rather than being cheerily upbeat it's better to stay in touch with things as they are. The psychologist Elisabeth Kubler-Ross developed a model of the stages people go through in a way of thinking about coming to terms with things they are dying or about to suffer a great loss. These are denial, bargaining, depression and finally acceptance. I fear that there's an element of denial and wishful thinking in all of this. Yes, nature is abundant – but it also has die-outs and extinction events.

To me, the chief problem of all this abundance stuff is that it might delay emotionally coming to terms with the profound impact of humankind on the fecundity of nature and the exhaustion of energy supplies – without which the

information in the seeds and in our software cannot fully evolve. To really take in the threats of climate change and Peak Oil is to be affected emotionally. Many people suffer grief because the future that they saw for themselves and for their children is not there anymore. I think that it is with, or after, the despair that one achieves acceptance and a commitment to constructive action – together with a different kind of hope – one based on realism.

Hoeschele: I think in the end we really agree on far more than on what we disagree about. Yet, I'd like to say something more in favor of using words like "abundance," and that is the widespread view that environmentalists are nay-sayers, that they want us to give up the good things in life, and become saintly hermits who renounce wealth for the greater good of the earth and the myriad species that exist here. I know that I've just drawn a caricature, but I find that this image really hurts the cause of trying to develop sustainable ways of living on this planet. When you juxtapose this image with the consumerist barrage of messages, then very few people are going to embrace a new lifestyle of reduced resource consumption.

The message I am trying to convey is that our current conditions are actually a condition of scarcity. Our wants and needs for commodities are always kept in excess of supply (a "feeling of scarcity" if you wish, but the people feeling scarcity can't usually tell the difference between the feeling and some objective reality out there). Instead, if we take another path, we can experience the abundance of having potential access to far more than we need, and the sense of security that comes with this. This opens up far more space for creativity, for generosity, for human relationships of care and mutual support, that foster each individual's personal growth. In my experience, talking about abundance does not lead to fear (an emotion which I feel is intimately tied up with scarcity) but rather to enthusiasm and to the creativity that we need in order to contribute to an economy built on positive human relationships.

Verzola: We should not underestimate the value of a positive message. Reality may be 90 percent bad and only 10 percent good, but to dwell 90 percent of the time on the bad will cause cynicism, despair and a feeling of powerlessness.

Davey: But we can take the view that if reality is 90 percent bad, then that is what it is – 90 percent bad with 10 percent good. As the psychiatrist R. D. Laing puts it, "The only pain we can avoid in life is the pain caused by trying to avoid pain."

The literature on the psychology of values and motivations suggests that concentrating on the dark side of something can actually be better for producing more profound shifts in people's attitudes. Clive Hamilton and Tim Kasser once said at a conference at Oxford University that deep reflection on death (usually thought of as "bad"), is better at producing a shift in profound values. They recommend that environmental campaigns avoid appealing to selfish desires such as, "Ten ways you can save money by reducing your carbon emissions." I think it is possible to connect messages with the idea of cooperation and non-material benefits. Instead, at present, most governments and environmental organizations adopt a "don't scare the horses" approach, fearful that exposing people fully to the scientific predictions will immobilize them.

Hoeschele: But still, it is important if we choose an imagery of death and dying, or of healing. While acceptance leading to resignation is appropriate in the case of death and dying, in the case of healing it is also important to feel and recognize the pain, but this does not lead to resignation – but to a reliving of one's self-healing capacity. That's the abundance, which can then lead to healing despite odds that doctors (the rational ones) have considered impossible. This isn't just wishful thinking (if it were, I wouldn't support it), but something much more powerful.

Davey: Therapist Oliver James argues in his book *Affluence* that there is a distinction between positive thinking and positive volition. He considers positive thinking a form of denial that is not helpful. But maybe we can agree on this: one has to recognize and acknowledge that one has a serious health problem, in which death is possible, in order to take that health problem seriously enough that one sets about working on the tasks involved in healing. We may then take steps to work to get better – but still are able to stay in touch with the reality.

Helfrich: Marianne Grönemeyer once wrote, "Abundance (the German word is literally "overflowing") has taken on a dissonant overtone. Not the overflowing, but the superfluous, is the meaning that has pushed itself to the foreground." Perhaps our debate can contribute to reversing this tendency and to foreground the things we really have or need in abundance: knowledge, information, healthy relationships, cooperation, and the full potential of self-organization. All of them are essential in the commons.

Many thanks for this conversation!

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PART TWO

CAPITALISM, ENCLOSURE AND RESISTANCE

Catechism

by Johann Wolfgang von Goethe

Teacher.

Bethink, thee, child! Where do those gifts come from?
Something from yourself alone cannot come

Child

Oh! Everything is from Papa.

Teacher

And he where does he have them from?

Child

From Grandpapa

Teacher

Not so! How to your Grandpapa did they befall?

Child

He took them all

The law locks up the man or woman
Who steals the goose from off the common
But leaves the greater villain loose
Who steals the common from off the goose

The law demands that we atone
When we take things we do not own
But leaves the lords and ladies free
Who takes things that are yours and mine

The poor and wretched don't escape
If they conspire the law to break.
This must be so but they endure
Those who conspire to make the law

The law locks up the man or woman
Who steals the goose from off the common
And geese will still a common lack
Til they go and steal it back

Anonymous, 18th Century

Enclosures from the Bottom Up

By Peter Linebaugh

I think we have reached a critical moment, so long as we do not lose sight of the fact that enclosure was not itself a new social relation – it presupposed one already. And as history has imposed its imperative idea of understanding the historical process in a wider, more global context, I believe the accumulation of enclosures will now stand as a contemporary fact. On the one hand, there is the fall of the Berlin Wall, on the other hand, the vain security fence between Mexico and the United States, and the hideous gigantism of the Israeli wall immuring Palestine. Both define the current moment. The "English enclosure movement" has belonged to that series of concrete universals – like the slave trade, the witch burnings, the Irish famine, or the genocide of Native Americans – that has defined the crime of modernism. Yet enclosure's antonym – the commons – carries with it a promising but unspecified sense of an alternative.

freedom seems to promise both individual ownership and social productivity but in fact the concept is inseparable from terror and the destruction of independence and community. Take the cowboy, for instance:

New to his way with a horse a cowboy was proudest of his independence. He worked for other men, but they owned nothing of him except his time. He was a free soul. He could ride from the Rio Grande to the Powder River and seldom see a fence. He could start that ride with five dollars in his pocket and have three left when he finished, if that was the way he wanted to travel. Money did not rule him.

The cowboy novelist Elmer Kelton wrote these lines about the 1883 Canadian River cowboy strike in Texas (Kelton 1971, 2008). The cowboy's independence has been perverted into the egotistical individualism of American manhood by Hollywood, which figures him as a gunslinger and the "Indian" as a killer. We lose sight of the cowboy as a worker in the continental meat trade that lies at the base of social and ecological changes in North America since the sixteenth-century conquest. (Cockburn 1996) The "roast beef of old England" also depended on a cattle trade that connected Scotland and the meat markets of Smithfield in London. But the English drovers did not acquire that cultural, ideological subjectivity that the American cowboy did. Why? The symbol of independence was the commoner, the yeoman – a tougher, more enduring breed. But this figure also defined

independence in relation to fencelessness. If not the open range, then the open field; if not barbed wire, then the thorn hedge

The enclosure of the commons has reappeared in the 21st century owing to four developments. First was the uprising in Chiapas led in 1994 by the Zapatistas¹ in opposition to the repeal of Article 27 of the Mexican Constitution that provided for *ejido*, or common lands, attached to each village.² Another process of "new enclosures" took place in Africa and Indonesia. If the cowboy novelist implied a relation between the fence and money, Pramoedya Toer (2000) implies a relation between fence and crime using the example of Buru Island under the Suharto regime in Indonesia.

But the Buru interior was not empty: there were native people. Long before the arrival of political prisoners forced them to leave their land and huts behind. Then, as the prisoners converted the savanna into fields, the native people watched their hunting grounds shrink in size. Even the area's original place names were stolen from them and they, too, were calling the area 'Unit 1'. With ten large barracks planted in their soil and five hundred prisoners settled on their land, what other choice did they have? But the strangest thing of all was when the prisoners began to build fences, erecting borders where no boundaries had ever been. The native people had no word for fence – the concept was completely foreign to their culture. They didn't recognize such manmade limitations on land-use rights.

A second development of the late 20th century bringing about a discussion of enclosure and the commons was the development of the Internet and the World Wide Web as a knowledge commons. A third process was the pollution of the planet's waters and the poisoning of its atmosphere. Finally a fourth factor was the collapse of the communist countries of eastern Europe, which made it easier to discuss the commons without automatically being suspected of ideological intercourse with the national enemy.

As each of these examples referred either to "enclosures" or to "the commons," interest in the classic case of enclosures, namely England, was renewed. Raymond Williams surveys English literature from the aristocratic pastoral of the satirical 16th century to the coal miners. He is careful to limn enclosure as but one of several forces in the development of capitalism. Enclosure was a visible social fact, and the sense of collapse and melancholia found in authors like Oliver Goldsmith, George Crabbe or William Cowper was a response to it. Yet the process of enclosure had been ongoing in England since the thirteenth century before reaching one peak around 1760 and then receding, only to be revived in the nineteenth century. The extension of cultivated land and the concentration of ownership went together. We can call this the "great arc" of English history

At the end of the 17th century Gregory King estimated that there were 20 million acres of pasture, meadow, forest, heath, moor, mountain, and barren land in a country of 37 million acres (Williams 1973). Even if common rights were

1 | See Gustavo Esteva's essay on pp. 192–198

21 See Ana de Itz's essay on pp. 103–105.

exercised in only half of these, it means that in 1688 one quarter of the total area of England and Wales was common land. Between 1725 and 1825 nearly four thousand enclosure acts appropriated more than 6 million acres of land to the politically dominant landowners. The Parliamentary enclosure made the process more documented and more public. It got rid of open-field villages and common rights and contributed to the late 18th century's crisis of poverty. Arthur Young, at first an aggressive advocate of enclosure, changed his mind in the early years of the 19th century, often quoting a poor man who said, "All I know is I had a cow and Parliament took it away from me." The acts were part of the legalized seizure of land by representatives of the beneficiary class. E. P. Thompson called it a plain enough case of class robbery (Thompson 1964).

On the wastes, cottagers and squatters lost marginal independence. Many villages were lost, and airplane surveys alone detect their traces. Indeed, the first impression that visitors often have when flying into Heathrow is the predominance of green fields and hedges on the ground. This is a post-enclosure feature of the landscape. Hundreds of miles of quickset hedge symbolize barriers between people and land. A visitor who takes a train to the Midlands will perhaps see earthworks in the land resembling the rolling swells of a surf before the waves break. This is the ridge-and-furrow pattern caused by the long practice of strip farming on the open-field system. In the eighteenth century the network of great houses or neoclassical mansions was formed establishing strong points of the rural ruling class. This, along with colonial expansion, constituted the architecture of enclosure.

The General Inclosure Act of 1845 declared that the health and convenience of local inhabitants needed to be taken into consideration during enclosure, and commissioners could set aside an area "for the purpose of exercise and recreation for the inhabitants of the neighbourhood." This act envisioned the great London parks. The Common Lands Census of 1874-74 showed that only 2.5 million acres of common land remained in England. The 1955 Royal Commission on Common Lands introduced a third legal party in addition to the landlord and the commoners, namely the public. Although this recognized "a universal right of public access on common land," the public significantly does not manage the land, as commoners used to do.

Elinor Ostrom, who was awarded the Nobel Prize for Economics in 2009 for her work on the governance of the commons, has been deeply critical of Garrett Hardin, the biologist who in 1968 published his famous essay, "The Tragedy of the Commons" (Hardin 1968).³ His was a brutal argument with an inhuman conclusion: "Freedom to breed will bring ruin to all." Hardin here alludes to Jeremy Bentham's utilitarianism, Adam Smith's invisible hand, Thomas Malthus's population theory, and Charles Darwin's theory of natural selection, to buttress his arguments with thinkers of the 19th century English establishment. The influence of his article did not arise from such authorities but rather stemmed from its striking tone, which combined the somber and the terrifying with the simple and

replete. The article began with nuclear war and rapidly proceeded to tic-tac-toe as an example of strategic thinking. His class markers were made with remarkable candor: "But what is good? To one person it is wilderness, to another it is ski lodges for thousands. To one it is estuaries to nourish ducks for hunters to shoot, to another it is factory land." These are the activities of the factory owner, not of the factory worker. The crux of his argument is expressed in a few paragraphs:

The tragedy of the commons develops in this way. Picture a pasture open to all. It is to be expected that each herdsman will try to keep as many cattle as possible in the commons. Such an arrangement may work reasonably satisfactorily for centuries because tribal wars, poaching, and disease keep the numbers of both man and beast well below the carrying capacity of the land. Finally, however, comes the day of reckoning, that is, the day when the long-desired goal of social stability becomes a reality. At this point the inherent logic of the commons remorselessly generates tragedy. As a rational being, each herdsman seeks to maximize his gain. Explicitly or implicitly, more or less consciously, he asks, "What is the utility to me of adding one more animal to my herd?" This utility has one negative and one positive component. Adding together the component partial utilities, the rational herdsman concludes that the only sensible course for him to pursue is to add another animal to his herd. And another . . . But this is the conclusion reached by each and every rational herdsman sharing a commons. Therein is the tragedy. Each man is locked into a system that compels him to increase his herd without limit – in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all.

Three times Hardin refers to the "rational" herdsman. It is a fantasy. What he most likely means is the selfish herdsman or the lonely herdsman, because, in history, the commons is always governed. The pinder, the hayward, or some other officer elected by the commoners will impound that cow, or will fine that greedy shepherd who puts more than his share onto the commons. This idea forms the basis of Ostrom's intervention. For Hardin, the world is governed by "dog eat dog," not "one and all."

There is an early case of enclosure – that of Otmoor, Oxfordshire. Bernard Reaney, its historian wrote: "The commoners turned out their geese, cattle, horses, pigs and sheep to graze on the moor. Peat was dug for fuel, and old women scraped up the cow-dung to earn a pittance by its sale. The moor provided a plentiful supply of osiers, which enabled the craft of basket-making to thrive in the village. There was a wood of oak and ash, and a copse of hazel, for fire and wood, and which could furnish an important part of the diet of the poor. . . . Thus the essential elements of a peasant subsistence economy were provided. The presence of fuel, game, and land for grazing cattle, enabled the Otmoor townspeople to live independently if precariously" (Reaney 1970).

The communal regulations did not permit sheep on the moor from May 1 through October 18 under pain of a three shillings four pence fine. A fine of four pence was given to anyone who put a pig on the moor that was not secured with a

3 | See also James Quiligan's essay on pp. 71–81.

4 | *Commons: The Evolution of a Cultural and Political Idea*, by Lindebaugh, pp. 10–11.

(gorse bracken, chalk, gravel, clay, rushes, reeds, nuts and herbs). These customary rights might provide fuel, meat, milk, tools, housing, and medicines. Rights were matched to a comprehensive range of rules and controls designed to prevent overconsumption and to reward intricacy, ingenuity, and thrift. It was vital to the community that commons be maintained and harvested to keep resources self-renewing. Epping forest pollards could not be felled because, while they were the property of the landowner, the commoners had rights to kips and tops. In Selborne Woods, where the commoners had pasture and pannage, the landowner could not replant trees unless they were beech, whose mast was necessary for the pigs. Thirteen cherry balls each with a different name were distributed by lot for harvest rights in Porey and Yarnton Meads in Oxfordshire. The order in which they were withdrawn from a bag determined the strips in the meadow from which each commoner could take hay that summer.

Mabey admits that if such a system were re-adopted, a "state of impenetrable muddle" could prevail. But how did such a muddle first come about? The tidy reasoner may pull out his or her hair, but this "state of impenetrable muddle" was also a source of power. The power of the commoners! Why did it take seven or eight centuries to enclose England, when it is so much easier to generate a commons? Perhaps we answer the question because she describes the various forms of resistance to enclosure that included petitioning, spreading false rumors, attacking property, foot-dragging, mischief, anonymous threatening poems, grumbling, playing football, breaking the squire's gates, fence breaking, wood stealing, and so forth. She states, "The sense of loss, the sense of robbery could last forever as the bitter inheritance of the rural poor" (Nerson 1906).

The seven towns around Otmoor – Charlton, Fencot and Murcot, Oddington, Beckley, Horton, Studley, and Noke – were small, Noke had fewer than a hundred inhabitants, while Beckley had 370 in 1831. The Moor Court at Beckley in 1687 defined the relation of the towns to the moor as they had been defined in the Domesday Book. "That ye Comon of Otmore shall belong to none but ye Inhabitants of ye seven Townes belonging to Otmore for commoning any manner of Cattle there." Commons were of three kinds: the common or open fields of each village, which rotated year to year; the common rights on them and the town wastes, in this case, Otmoor.

The only gentleman residing in the area was Alexander Croke, a peer of the realm who bitterly attacked the commoners' theory of the origins of their rights, which they argued stemmed from some queen (perhaps Elizabeth I) who had granted as much land as she could ride around while an oak sheaf was burning. Croke stated that going back to the enclosure of 1830 for more than fifty years. The struggle began with the proposal in 1801 by the Duke of Marlborough to drain and allot enclosures of over four thousand acres. When notices were affixed on the parish church doors, they were taken down "by a Mob at each place." The next affixing attempt of enclosure notices was in 1815, again it was found impracticable "owing to large Mobs, armed with every description of offensive weapons." The humbler people began to bestir themselves. No records of any manor enjoying rights of common could be found. "the custom of usage without stint, in fact, pointed to some grant before the memory of man."

The enclosure bill was passed despite these discoveries, which "made it unlikely that any lord of the manor had ever had absolute right of soil." The enclosers had Atlantic experience. Croke had been employed by the government in 1801 as a judge in a vice admiralty court in Nova Scotia, attaining a reputation as a narrow-minded Tory. He argued that only proprietors, those who owned their own house, had common right, while "the poor, as such, had no right to the common whatever" (Reaney 1970).

In 1830 the dam that had been part of the drainage effort broke. The farmers took the law into their own hands and cut the embankments. Twenty-two of them were indicted and acquitted. This made a profound impression on the cottagers, and for a week parties of enthusiasts paraded the moor and cut down its fences. Assembling by the light of the full moon, blackening their faces, and dressing in women's clothing, the commoners stepped forth to destroy the fences, the hedges, the bridges, the gates – the infrastructure of enclosure. The high sheriff, the Oxfordshire militia, and Lord Churchill's Yeomanry Cavalry were summoned. Yet the inhabitants were not overawed. They determined to perambulate the bounds of Otmoor in full force, in accordance with old custom. On Monday, September 6, five hundred men, women, and children assembled from the Otmoor towns, joined by five hundred more from elsewhere. They decided to "perambulate the whole circumference of Otmoor, in the manner which they state it was customary for them in former times to do, and that abandoning their nocturnal sallies, they would in open daylight go possessioning and demolishing every fence which obstructed their course.... Armed with reap-hooks, hatchets, bill-hooks, and duckets, they marched in order of battle, the seven or eight hundred men, women, and children, destroying all the fences on their way." Wheelwrights, hatters, and hay dealers, along with shoemakers, bakers, tailors, butchers, basket makers, masons, plumbers, and grooms – the full panoply of village artisans were evident. The commoners were organized.

There were retaliatory efforts, of course. Sixty or seventy commoners were seized by the cavalry, and forty-four were sent to Oxford jail under the escort of the yeomanry. But the protests happened to take place on the day of Saint Giles's Fair. The streets were crowded with folk. When the cry was raised, "Otmoor forever," the crowds took it up and hurled brickbats, sticks, and stones from every direction. All forty-four prisoners escaped.

The law locks up the man or woman
Who steals the goose from off the common
But leaves the greater villain loose
Who steals the common from the goose.⁷

James Boyle has tracked these lines to 1821, tacked as a handbill in Plaistow as a caution to prevent support for the intended enclosure of Hainault or Waltham Forest (Boyle 2003). Its very ease may cause us to overlook two themes of utmost

6) Jackson's *Oxford Journal*, September 11, 1830. I don't know what a ducket is, and the *Oxford English Dictionary* is of no help with that particular knowledge.

7) For the entire poem, see p. 113. Editors' note: Boyle adds that the poem probably dates from the 18th century.

importance – namely, incarceration and reparations. It was Lord Abingdon who openly opposed Croke's first attempt to get a parliamentary act enclosing Otmoor. A leading eighteenth-century Whig, though not a resident, Abingdon argued that hundreds of families would lose their subsistence that depended on "the Right which they now enjoy, of breeding and raising geese upon the Moor" (Reaney 1970).

In the fall of 1832 riots broke out in Oxfordshire. Philip Green was a chimney sweeper and an Oxfordshire leader of anti-enclosure and anti-mechanization. He was "an old man of wars" and was "not afraid." If wages were not raised, Green predicted, commoners would unite to "break all the machines in the Neighbourhood and stop the Labourers from work." As Croke, the encloser, was an Atlantic figure, so Green, a commoner, was conscious of world affairs. Sailors like him would have paid special attention to the Nat Turner revolt of 1831 in Virginia or to the huge Christmas revolt of twenty thousand slaves in Jamaica during the same year. The Enclosure Act was fifteen years old in 1830. For two more years Otmoor would remain in rebellion. A detachment of Coldstream Guards was dispatched to the area. In August 1831 the Home Office sent some London policemen. The church door riots of September 1831 demonstrated the ability of locals to organize an attack during which notices of the financial rates to pay for the work of enclosure were removed. The police officer attempting to put up the notice was stoned as he fled to the clergyman's house. "Damn the body snatchers" was the cry. What did it mean? It was widely believed that the authorities were complicit in "burking," the grim practice of kidnapping and suffocating people and selling their bodies to medical schools. The practice takes its name from an Edinburgh resurrection man, William Burke, who was hanged in 1829. In 1831 five hundred medical students in London would have needed three bodies apiece for their anatomical training, about fifteen hundred cadavers a year. Seven resurrection gangs of body snatchers flourished in London at the time, and one man, John Bishop, sold between five hundred and a thousand over the course of his career. The year 1831 also saw the foundation of the Metropolitan Police in London, where more than a thousand uniformed and armed men patrolled the streets. They were hated and believed by many to be unconstitutional, in violation of the prohibition of a standing army. The taking of land and the taking of bodies were thus closely associated. As the horror of the deed rapidly spread, the police were widely believed to be in league with the surgeons of many of London's distinguished medical colleges.

The commoners turned out on the moor whenever there was a full moon and pulled down the fences. In January 1832 a local magistrate wrote Lord Melbourne that, "The mood in the villages was one of open defiance of the law." The constabulary was helpless and more soldiers were dispatched. "Any force which Government may send down should not remain for a length of time together, but that to avoid the possibility of an undue connexion between the people and the Military" (Reaney 1970). This was the way revolutions were prevented, no fraternization.

Marx wrote in the preface to the first edition of *Das Kapital* that "the English Established Church will more readily pardon an attack on 38 of its 39 articles than on 1/39th of its income" (Marx 1976). It is not clear whether or not Marx had reviewed the text of the Thirty-Nine Articles established under Elizabeth I during

what have been called the "religious" wars of the sixteenth century. The thirty-eighth article in fact reads, "the riches and Goods of Christians are not common, as touching the right title and possession of the same, as certain Anabaptists do falsely boast." Anti-communism thus formed an essential part of the doctrine of the English establishment. At the time Marx was writing, the portals of power opened only to the propertied and to the communicants of the Church of England. There is a long association in English history between religion and enclosure going back to the first enclosure act in 1534. To Marx, "separation of property from the land – he called it primary or primitive accumulation – played 'the same part as original sin in theology.'"

The red cloth of the magistrate and the black cassock of the priest combined in Oxford to enclose Otmoor. Four clergymen of the Church of England – the curate of Beckley, the rector of Oddington, and the vicars of Chariton and Noke – were strong supporters of enclosure. Two of them became commissioners, which actually took away land from seventeen hundred people and reassigned it to seventy-eight. Much of the land went to clergymen and to three of the Oxford colleges, Balliol, Oriel, and Magdalen. Lloyd, besides being a professor, was also a clergyman of the Church of England. Without having traced his personal property relations or those of his Oxford college to the struggles over the Otmoor Enclosure Act, it nevertheless seems clear that his arguments responded to the struggles of the common people, those nocturnal and those occurring by daylight, those protracted and those immediate, those urban and those rural. Like Marthus before him and Hardin after him, he was an encloser, not a commoner.

Bottom-up history requires that we must attend not to the completeness of the wall but to its cracks. Lest we forget, the Bristol Radical History Group has renewed the History Workshop tradition in many ways, not least in its pamphlet series, and two of these publications concern enclosures and resistance to them (Wright 2008, Mills 2009). They bring to life again the real history on the ground when the concrete is the enemy of the abstract and when the historian, or people's remembrancer, is a cultural worker serving the people in struggle.

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The Commons – A Historical Concept of Property Rights

By Hartmut Zückert

The commons – a historical concept, has become an object of interest for the modern social sciences and the general public like few before it. It is well known that it became famous due to Garrett Hardin and his influential article, "The Tragedy of the Commons" (Hardin 1968). Hardin had extrapolated from the historical phenomenon of the commons to identify principles for managing parking lots, oceans, national parks, air and water.¹ The question arises here whether this might be an ahistorical analogy that contributes little to clarifying the problem as it presents itself today.

The criticism of Hardin's essay made it clear that the historical commons were by no means "open to all" and therefore subject to tragically unavoidable destruction. Instead, there was a clearly defined group of people with rights to the commons who agreed with one another on rules in order to avoid degrading the resource.² Hardin used a less sharply defined concept than Gordon, who spoke of the oceans as a "common property resource" (Gordon 1954). However, Gordon's critics argued that it is wrong to speak of common property if nobody has claimed the resources accessible to all as property.

Elinor Ostrom dropped the category of property rights as a starting point for analysis and instead founded her studies on the term "common pool resource," a term used to describe oil or groundwater deposits. She also differentiated between open access and limited-access natural resources. She agreed with Hardin that open-access resources belonging to no one are vulnerable (Ostrom 1990) but disagreed when it came to limited-access resources. Ostrom and others gave a number of examples of common usage, some of which had existed for centuries and had sustained the resources in question. And this is where the concept of property rights comes into play again.

Ostrom and Schlager differentiated between various bundles of property rights and distinguished the next four categories: 1) users, who are entitled to access and withdrawal of resources; 2) claimants, who can also exclude others; 3) proprietors, who have additional management rights; and 4) owners, who also

1 | Peter Lindebaugh's essay, pp. 114–124, traces the concrete background of Hardin's historical reference.

2 | An overview of the discussion is to be found in Lerch, 2009.

have the right of alienation, i.e. to sell the resource. The stronger the bundle of rights, the less danger to the existence of the common pool resources, they postulated (Schlager, Ostrom 1992).

The concept of property as a bundle of rights permits us to create a hierarchy of the rights to the resource as in Table 1. In order to do this we can set up a typology by means of a comparative analysis of cases of common property management around the world, or by looking at the historical commons as to which forms of management and which constitutions relating to property rights enabled them to survive for centuries.

The commons in historical perspective: the story of enclosures

Before the Agrarian Revolution, which was linked to the Industrial Revolution, there were two different intensities of land use (the following is based on Zuckert 2001): intensive cultivation of arable and meadow land (manuring, plowing, sowing, harrowing, harvesting, irrigation or drainage), which was therefore the peasants' private property and extensive cultivation of grazing land and wood lands where cattle was herded and wood harvested and which for this reason remained common property: the commons (see figure). How much livestock an individual could have depended on the amount of hay available as winter fodder, that is, on the size of the meadows. From the 14th century on, cattle were not herded in the commons pasture.



Ring-shaped model of a village: I village with fields, II fields, III meadows, IV commons pasture.

The Agrarian Revolution basically meant that people started to grow forage crops such as clover, turnips and potatoes, making it possible to feed cattle in the barn. Thus, rough pasture was no longer needed. The commons was either turned into fields or cultivated more intensively as pastureland. In other words, it was enclosed. The practice of having animals graze in the forest (wood pasture) was abandoned, and the forests were devoted to intensified timber production and privatized as well for this reason. The only uses to remain communal were those that were possible only on an extensive basis, such as Alpine meadows.

The agrarian innovations required capital investment: changes to crop rotation, seed for the feed crops, fences or hedges, barns and new equipment. For this reason, peasants, leaseholders and manorial lords with substantial holdings were at an advantage in the process of changing the mode of production and promoting it, while smallholders kept to traditional forms of farming. That was the basis of the conflicts around enclosures between manorial lords and leaseholders on the one side and smallholders on the other. Unable to compete, the latter lost out. Without keeping a few head of cattle on the commons, they could not survive, and

once the commons was enclosed, they could no longer farm for themselves and thus had to work as laborers on the farms of those who had benefited from the enclosures. That was the true "tragedy of the commons."

The basic distribution of property after the enclosures initially corresponded to the system of property rights that had prevailed before. In the feudal order, property was always shared property, that is, the nobility or the priory loaned the peasant his holding and the land that belonged to it; he had to perform labor services and pay rents in kind or money rents and was subject to the jurisdiction of the feudal lords. As the commons was part of the farmland, it, too, was under the control of the landlord, who was known in England as the "lord of the soil of the common." The lord and the commoners alike herded cattle on the common pasture and harvested timber in the woods. In Europe, the degree to which this occurred depended on whether the feudal lords had agricultural businesses themselves or were sustained mostly by rents.

East of the Elbe River, the peasants had to perform labor services in the fields of the manor even until the 19th century and only had usage rights to the commons. In England and the Rhineland, on the other hand, the manors were leased, and this ensured that the leaseholders had a dominant position vis-à-vis the other commoners in using the commons. In England, the commercial demand for wool resulted in the lord's flocks of sheep flooding the commons. In the Rhineland, the "Meutberhen" – the leaseholders – increasingly took on responsibility for managing the forest. In southwestern Germany and Switzerland, the manor fields were let out to the peasants, and the feudal lords limited themselves to the extensive branches of the economy, such as lumbering or grazing sheep, and competed with the peasants for the commons.

Accordingly, property rights developed in different ways. In southwestern Germany, the feudal property was forced back more and more, and around 1800 the peasants were de facto owners of their farms and the common pastures. They also enjoyed defined use rights to the forest, and often also to community woods. East of the Elbe, in contrast, the peasants only had weak property rights to their farms and usage rights to the commons.

With different property regimes, the consequences of the enclosures differed as well. In England, the lords and their leaseholders secured the lion's share of the commons – a scandal criticized publicly as early as 1516 by Thomas More in the critique of society he placed before his "Utopia": "sheep devour men." The nobility and abbots, he wrote, were "stopping the course of agriculture, destroying houses and towns, reserving only the churches, and enclosing grounds that they may lodge their sheep in them." East of the Elbe, the situation was worse; the nobility was taking possession of the common land and granting the peasants only minimal "compensation." The manors, which had grown large because of the appropriation of the commons, were run with semi-free laborers who obeyed the nobility's lashes. The state acted as midwife of the new system of property rights by passing the *parliamentary enclosures*, i.e., enclosures enabled by laws of Parliament, in England (c. 1760–1820) or the *Gemeinheitsabteufelungen* in 1821 in Prussia. In southwestern Germany, in contrast, dividing up the commons after a long process resulted in a beneficial situation for the peasants and communities.

The commons in history: managed by the cooperative

In terms of property law, the commons were bound to ownership of fields. Everyone who owned fields was permitted to herd their cattle on the commons. Arable farming was organized in cooperatives, and the village cooperative had the authority to manage the commons. An important rule concerned the date when the harvest was concluded: on that date, cattle were herded to the stubble, where they manured the soil. In other words, fields and meadows turned into commons after the grain and hay were harvested. Private property was in abeyance and treated as common property until spring returned.

All of a village's cattle were herded on the pasture together, either by peasants taking turns or by a herdsman hired by the cooperative. It was his duty to ensure that the cattle did not go onto the fields. When the increasing number of cattle raised the risk of overgrazing the pasture, the cooperative issued an ordinance for the pasture in the form of a so-called *Wetuum*, or bylaw. It limited the number of cattle ("stinting"), impounding them if necessary and levied fines and enforced their collection. There were similar arrangements for other rules and offenders. If too much wood was cut, allotments were set. Thus, cooperative institutions were required: firstly, an assembly of the cooperative that decided on the rules; secondly, a village mayor who implemented the bylaw of the commons, and thirdly, a village court that adjudicated disputes. In this way, dangers to the commons produced new competencies within the cooperative.

These capacities included oversight of the common land within the village itself, where communal institutions such as the herdsman's house, the smithy, the bakehouse or the bath were situated. The community used wood from the common forest to build and heat such buildings. The community could also sell common land for common purposes. In other words, the cooperative formed communal institutions capable of holding rights and assets.

Cooperative means that the cooperative action of all enables the individual proprietor to conduct economic activity. This is the root of the cooperative motto, later mythologized as, "One for all, all for one!"

Only landowners had property rights to the commons. But besides the peasants, limited use rights were granted to artisans in the village, whose services the peasants depended on, as well as laborers who were employed by the peasants in peak periods, especially the harvest, and who otherwise earned their livelihoods by spinning and weaving. The cooperative permitted these non-peasants to herd one cow on the commons and to collect dead wood in the forest. These usage rights arose from the mutual dependency of villagers on one another. As the number of spinners and weavers in the villages increased during the early stage of industrialization, the numbers of their cattle increased to such an extent in some places that they overburdened the commons. This indeed brought about a crisis of the commons in these industrialized villages, as those who did not own fields were dependent on the marginal use of the commons, even though the commons were actually a complement to the cultivation of fields.

The stronger the peasants' property rights to the fields, and therefore also to the commons, the stronger their self-government. At the village court, it was no longer the interests of the lord that were determinative, but those of the peasants' cooperative. The reeve – an official elected by peasants to supervise the land for a *ward* – became an institution of the community; the manor court became the village court. People's thinking developed accordingly, and cooperative principles were elevated to the norm. The size of the individual peasants' holdings was irrelevant when the cooperative assembly took a vote. Instead, every peasant had a vote, following the principle of *one man, one vote*. And the commons' principle was always limited so that it would not impair the livelihoods of all: that was the purpose of limiting the number of cattle on the commons. "Common benefit" was the uppermost norm of this cooperatively organized society. And it was by no means limited to the local sphere. As this norm was widely recognized, it was also applied to societal issues in general, such as the demand that rulers use the state to promote the common benefit, and the church to preach these values (Hickie 1998).

Community life was lively and featured an annual procession around the boundaries of the village and the lands belonging to it, a communal drink after auditing the common box (the community funds). Folk customs were combined with the common pasture. To the peasants, the bell that the village bull wore around his neck on the pasture signaled, "the reeve is coming, the reeve is coming!" (The reeve kept the community's breeding bull.) On New Year's Day, the herdsmen blew their horns, went from door to door and sang their song, asking the peasants to give them something – such as their best-smoked sausages. The gifts were considered an expression of the peasants' esteem for the community employers' careful handling of their livestock (Zuckert 2001).

The commons were part of an economic system that, given the developmental stage of the agricultural production methods, had no alternative but to be communal. Managing the commons was based on social and cultural interaction (which was all the more vibrant the more the cooperative managed this economic activity itself) and closely connected to the cooperative's property rights to the commons resources.

Global commons?

The historical concept of the commons covers a broad spectrum of communal property rights, from merely the right to use a resource owned by the feudal lords to self-management, the exclusion of third parties, and even the right to sell the resource. The historical understandings of the commons have the same scope as Ostrom's studies of natural resources.

In contrast, the concept of the commons today often refers to open-access natural resources such as oceans, the atmosphere and space.¹ Such aspirational

1 | Editors' note: What is more, in the modern debate on the commons, all objects and resources that are not produced by an individual or that are given to the general public are *commons*, regardless of whether they require restrictions to access or not. Knowledge commons, for example, flourish best if open access to knowledge and information are guaranteed.

uses of the term do not specify the actual governance regimes that can sustainably manage them, however.

Are the defining characteristics of the historical commons – or a comparable concept of common property – transferable to open-access commons or even to global resources? Ciriacy-Wantrup and Bishop were convinced that common-property institutions might be helpful in solving current-day problems of natural-resources policy and are doing so already. High-seas fisheries can serve as an example here. Limiting a fishing season to counter overfishing has a parallel in the grazing season on the commons; extending national fishing zones to 200 miles from the coast is analogous to the boundaries of a village's grazing land and the determination of who had rights to graze livestock there. The establishment of national quotas and individual fishermen's quotas resembles the practice of stinting on the commons. Similar institutions regulating use of the atmosphere, they believe, might emerge. Following those who consider the oceans to be the common heritage of all mankind, one could consider these resources to be a "giant commons managed as a trust by some international agency such as the United Nations." (Ciriacy-Wantrup/Bishop 1975)

The historical concept of the commons is a concept of property rights. If we historicize the contemporary debate about the commons and bring the historical concept of the commons into play we must take that into account. Yet we must consider whether the question of property rights is even the central issue if we seek to solve global problems, and if so, how common-property rights can be fleshed out today.⁴

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4 I am grateful to Julio Lambing for discussions and food for thought.

The Global Land Grab: The New Enclosures

By Liz Alden Wily

Consider this. It is 1607. The English have been taking lands in Ireland for several centuries. First written down in the 7th century, Irish customary law is sophisticated and still administered by trained traditional magistrates (*brehons*). Now rubrics in the English courts on Gavelkind (1605) and Tanistry (1607) finally deny that customary law delivers property rights. Family holdings are made tenancies of by now well established Anglo-Irish elites, and the commons, crucial to grazing and hunting, are made more absolutely the property of the elites and new waves of English and Scottish settlers. Irish communities may use the commons at the will of these new owners.

Now 1823 in America. Chief Justice Marshall rules that while Indian natives were rightfully in possession ("Aboriginal title") of 43,000 square miles of disputed land – in a case he engineers to be brought before the Supreme Court (and in which he has a private interest) – they illegally sold this tract to developers. He argues that by virtue of conquest, the British Crown became the owner of North America ("the right of discovery"). Therefore only the Crown or its administrations may lawfully sell or grant lands. Possession is no more than lawful occupation and use, and doesn't count. Forty-year-old opinions of the Privy Council in London and Marshall's argument. These opinions established in 1773 and 1774 that English law *supersedes* local law, and that for the purposes of property, land is "uninhabited" (unowned) when empty of civilized people (McAuslan 2006).

1845 in England. The villagers of Otmoor, Oxfordshire in England, as described by Linebaugh in this volume, have lost the right to keep their commons, as have hundreds of other communities across the realm. In fact, feudal land law in England (and the rest of Europe) has dictated for some centuries (since 1285) that only those granted land by the king, i.e. the lords, own the land. Local populations hold no more than use rights. These legal realities have come harshly into focus only with industrialization and with private capital hungry for lands and the financial kilnngs which may be made from selling the commons to railways and factories. Parliament, made up of wealthy landlords, is on their side, passing law after law since 1773 to legalize the dispossession of commoners. The Inclosure Act 1845 [46] administers the *coup de grace*, speeding up the process. Of course private gains under these "parliamentary enclosures" are "in the public interest."

1895 in Africa. A decade earlier the Plenipotentiaries of European Powers (as they refer to themselves) agreed to establish respective "spheres of economic influence" throughout the continent and make key entry points like the Niger and Congo Rivers free trade zones. As the newest industrial power and especially anxious to extend trade, Germany hosts the meeting in Berlin in 1884-85. Europe is in economic crisis (the Great Depression 1873-1896). Factory owners desperately need new markets for unsold textiles and other manufactures. Fabulously wealthy entrepreneurs, with "vast accumulations of capital burning holes in their owners' pockets" (Hobsbawm 1987) also seek new enterprises to invest in. The new working classes, having lost their livelihoods and now dependent upon (failing) factory jobs are also in need of new locales to migrate to. The matter is so important that the Powers create an early international trade law, the General Act of the Berlin Conference on West Africa, 1885. In practice, opening markets and enterprise in Africa does not work out so well and free trade goes out the window. By 1895 the economic scramble for Africa has segued into a political scramble with the creation of colonies and protectorates to protect new markets and tap the increasingly apparent wealth of resources and cheap labor in the African hinterlands.

The problem from the 1890s is, How to acquire such massive lands cheaply? For some time traders, profiteers and missionaries have been buying lands from coastal chiefs to create trading posts, ports, missionary enclaves, and more recently for anti-slavery monitoring posts. Companies backed by European governments have been doing the same. The British Royal Niger Company alone has several hundred land contracts made with West African chiefs guaranteeing access to land for mainly commercial oil palm production, supporting *inter alia* the burgeoning soap industry in Europe. Chiefs are now selling exploration rights to gold mining companies. Such purchases suggest that European governments are amply aware that Africa is far from unowned. There is also the 1844 Bond to consider. This is a bilateral investment treaty signed between "sovereigns of equal power" along the Gold Coast and the British Crown. Nor are such kings and chiefs naive, with a long history of slave and commodity trading behind them and well established trade missions and embassies in European capitals.

Luckily the old feudal land laws of Europe along with the Marshall Ruling of 1823 mentioned above come to the rescue. These offer a clutch of routes to legalize dispossession at scale. Legality is of concern to colonizers and their parliaments, not least to appease humanist groups at home who count the abolition of slavery as a first success. But the "right of discovery" assures the colonizers undisputed ownership of the soil. This may not work so well along coastal areas but can be amply applied to hinterland areas. Natives themselves unwittingly open the way many of them claim that only God can own the soil or that their communities, continuing from the past into the present and future, are the owners. While firm in their respective schemes of possession they admit the land itself cannot be sold at least not without the consent of communities. To Europeans, this conceded lack of fungibility and tendency to communalism "proves" that Africans do not own their lands in the manner European property laws acknowledge. Where bills of sale have queered the pitch, natives may be guaranteed secure occupancy and use – for

as long as they actively occupy and farm the land. It would not, in any event, be wise to make it difficult for natives to feed themselves.

Conditionality of occupation and use leaves the attractive prospect that Europeans may claim ownership of several billion hectares of unsettled and unfarmed lands – in short the communal property within their customary domains. Have not Smith, Locke, Mills and others established long ago that private property only comes into existence by the hand of man's labor? The concept of "wastes" from feudal tenures is neatly applied to the continent by all colonizing powers. Counterpoint constructs of "effectively occupied lands" in the form of settlements and permanent farms, and "unowned and vacant lands" quickly evolve. In the absence of acknowledged owners, the commons fall directly to colonial administrations as their private property. And if there is still any doubt, it is obvious to the white men that the lucrative forests, wetlands and grasslands of Africa cannot amount to property as they are in communal possession: in Europe, private property means individual property. Moreover property obtains legal protection only when an individual person or company has a deed to prove it. Africans do not. In oddly mixed ways, these various proofs of *terra nullius* are applied.

Legal dispossession of Africans is more or less total. In practice, the ability of colonizers to settle and "develop" more than a million or so hectares in each new polity is constrained (South Africa aside). Natives continue to occupy and use lands which they no longer legally own.

Through the 20th century major colonial incursions are made into these lands. Although cities and towns multiply they prove more notable for the conflicts they generate than the actual hectares they absorb. Settler schemes, commercial plantations run by parastatals and private enterprise, take a much greater toll, along with evictions caused by the issuance of concessions to foreign enterprises for oil, mining and timber exploitation. Laws are also passed declaring certain resources generically the property of the state; minerals (surface mined for centuries or not), waters, beachfronts, marshlands, mountains, forests and woodlands fall like minepins to the state, irrespective of local possession.

The 1960s in Africa. Liberation from Europe begins mid-century. Curiously, colonial notions of tenure are sustained in most post-independence land laws. Or perhaps not so curiously, for keeping rural majorities as tenants at will is as useful to new African governments as it had been to colonial masters. Class formation and land commoditization have grown apace since the 1940s. The new African middle class share not only political power and business interests but the same deep commitments to market-led development so strongly advocated by the new donors (the former colonizers) and international agencies. Positions expressed in the landmark studies of late colonialism in Anglophone (1955) and Francophone officialdom (1959) become embedded national policies in Africa, reinforced by the land policies of the World Bank (1975). These read little differently from those of Malthus and Lloyd, as recorded by Linebaugh: land privatization is prerequisite to productivity.

And peasants – their regimes of tenure and commons – and housing, in particular, are to be done away with as obstructions to individual-centric economic growth, to

allow the polarization needed to produce a landless class to further industrialization and lower and vegetal or arid, were vast areas of productive land and commons at scale. As is now so well known, Garrett Hardin, confusing collective group-owned property with open access regimes, adds his penny's worth to destructively good effect (1968).

All over Africa (and Asia) privatization schemes are launched, aiming to individualize, title and register houses and farms (Alden Wily 2011). Where these work, such as in Kenya, commons are subdivided among wealthier farmers. Or they are handed over to governments as forest and wildlife reserves or state-run commercial agriculture developments. Ultimately the reach of privatization schemes is limited, so that by 1990 only around 10 percent of the rural lands of Africa are subject to statutory entitlement, and most of this in the white settler areas of southern Africa. But this is not problematic for African administrations who continue to dispose of untitled, customarily-owned lands at will, often to themselves or other private interests.

1990 in Africa. Despite privatization pressures the customary sector remains dominant. At the century nears end half a billion Africans are still regulating their land relations according to community-based norms, shaped by customs but adjusted regularly to meet changing realities. Despite significant failures in the 1970s and 1980s governments hold tenaciously to mechanized large-scale farming as the route to growth. Smallholder agriculture remains starved of investment even though customary smallholders represent the overwhelming majority. Families eke out a living on less and less farmland per capita. Levels of concentration and farm landlessness within the African peasant sector look increasingly like those of South Asia in the 1960s. But where the commons remain these routinely make the difference between pauperization and survival. As in Linebaugh's village of Ommen over a century past, the unfarmed commons continue to provide a host of services and products, from "pasture to pannage" to fish and fowl and the waters needed to irrigate farms. Woodlands and forests are especially valuable, doubling the livelihood of the poor in many areas (IUCN 2010). And of course, the rural poor are the majority, some 75 percent of the rural population.

Democratization in the 1990s provokes tenure reforms, often following years of bitter social conflict. A handful of governments, most notably Uganda, Mozambique and Tanzania, acknowledge that Africans cannot remain forever squatters of their own land (Alden Wily 2011). They pass new land laws which for the first time endow customary rights with the legal force of real property, and irrespective of whether or not these interests are formally titled and registered, or owned by individuals, families or communities. The last opens the way for communities to secure thousands of hectares of commonage as acknowledged collective property. However, as well as being flawed in diverse ways, these cases are the exceptions. Most governments continue to avoid real change to their land laws. World Bank structural adjustment programs aid and abet this, coercing governments to accelerate privatization and sell off untitled lands (including the commons) to foreign investors.

Now consider this. It is 2011. Hundreds of rural communities in Africa – as well as parts of Asia and Latin America – are physically confronted with eviction or displacement or simply truncation of their livelihoods and lands they customarily presume to be their own. These lands are willfully reallocated by their governments to mainly foreign investors to the tune of an estimated 220 million hectares since mainly 2007, and still rising.¹ Two thirds of the lands being sold or mainly leased are in poverty-stricken and investment-hungry Africa. Large-scale deals for hundreds of thousands of hectares dominate, although deals for smaller areas acquired by domestic investors run apace (World Bank 2010).

This is the global land rush, triggered by crises in oil and food markets of the last decade and compounded by the financial crisis.² The latter adds backing and raises the speculative stakes enormously. The crisis provides lucrative new investment opportunities to sovereign wealth funds, hedge funds and global asset managers, the new crop of investors with a portfolio approach to global assets in their owners' pockets.³ Global shifts in economic power are evident, while western actors continue to dominate as land acquirers, the BRICs (Brazil, Russia, India, China) and food insecure Middle Eastern oil states are active competitors. A regional bias is beginning to show, China and Malaysia dominate land acquisition in Asia while South Africa shows signs of future dominance in Africa. Two South African farmer-entrepreneurs already exist in Nigeria, and Congo Brazzaville has granted 88 000 hectares with promises of up to ten million hectares to follow. Negotiations are ongoing in at least 20 other African states (Hall 2011).

What foreign governments and other investors primarily seek are lands to feed the lucrative biofuel market by producing sugar cane, jatropha and especially oil palm at scale.⁴ They also want to produce food crops and livestock for home economies, bypassing unreliable and expensive international food markets. Additionally, investors seek to launch lucrative horticultural, floricultural and carbon credit schemes. For all this cheap deals are needed: cheap land (US\$0–50 per hectare in many cases), duty-free import of their equipment, duty-free export of their products, tax-free status for their staff and production, and low-interest loans often acquired from local banks on the basis of the new land titles they receive.

This rush for land, the new landgrab, does not stand alone. Local banks, communications, infrastructural projects, tourism ventures and local industry are also being bought up with a vengeance. These take advantage of the new market liberalization that poor agrarian governments now finally provide after decades of nagging by international financial institutions. For host governments foreign investment is the new aid and path to economic growth, firmly facilitated by international agencies (Daniel 2011). Local land speculation flourishes in its service.

The promise of jobs is more or less the only immediate benefit to national populations, and experience thus far suggests these are not materializing.

Nor is the phenomenon a one-way street. Extending and entrenching competitive "spheres of economic influence" is also on the agenda. Foreign capture of population-rich new markets for home manufactures is actively sought as in the Chinese-backed Special Economic Zones (SEZ), most advanced in India but emerging elsewhere, such as in the Chinese "Shenzhen" planned in eight African states (Brautigam 2011). Should these develop they will provide tariff-free entry for Chinese goods at scale and locales for Chinese producers and laborers seeking to escape the saturation of home markets. Bilateral investment treaties, of which nearly five thousand have been signed between North and South states over the last decade, provide the governing framework for these developments.

In short, economic crises and shifts in the balance of political power once again produce seismic shifts in who owns and controls land, resources and production. But where are the poor and the commons in all this?

The commons and commoners

The answer is quite simple. Much of the lands being sold or leased to entrepreneurs are commons. This is not surprising because lands defined as commons in the modern agrarian world generally exclude permanent farms and settlements. Governments and investors prefer to avoid settled lands as their dispossession is most likely to provoke resistance. They also want to avoid having to pay compensation for huts and standing crops, or for relocation. Only the unfarmed commons – the forest/woodlands, rangelands and wetlands, can supply the thousands of hectares large-scale investors want. But most of all, the commons are deemed "vacant and available." For the laws of most host-farmer states still treat all customarily-owned lands and unfarmed lands in particular as unowned, *unoccupied and idle*. As such they remain the property of the state. This makes their onward sale or lease to private investors perfectly legal. Indeed, without such legality in domestic land law and investor-friendly international trade law to take their side in international courts if needed, no international or local investor would proceed.

Of course the commons are neither unutilized or idle, nor unowned. On the contrary, under local tenure norms virtually no land is, or ever has been, unowned, and this remains the case despite the century-long subordination of such customary rights as no more than permissive possession (occupancy and use of unowned lands or lands owned by the state).

In practice customary ownership is nested in spatial domains, the territory of one community extending to the boundaries of the next. While the exact location of the boundary is variable, at best only vaguely indicated, it is not in doubt in the locality as to which community owns and controls which area. Within each of these domains property rights are complex and various. The most usual distinction drawn today is between rights over permanent house and farm plots, and rights over the residual commons. Rights over the former are increasingly

1 | A coalition of agencies and universities published the data on recorded and verified deals in a report, "Land Rights and the Rush for Land," in October 2011 at <http://www.landcoalition.org/cpl/CPL-synthesis-report>.

2 | For case studies see <http://www.landcoalition.org/cpl/studies> and <http://www.landcoalition.org/cpl/case-studies>. For a more general overview see www.landcoalition.org/publications.

3 | For example in July 2011 the German Lufthansa became the first airline to use biofuels on regular commercial flights.

absolute in the hands of families, and increasingly alienable. Rights over commons are collective, held in undivided shares, and while they exist in perpetuity are generally inalienable. This is not least because the owner, the community, is a continuing, intergenerational entity. This does not mean that in the right circumstances parts or even all of a community's commons cannot be leased. Whether the community wishes to do so or not, is, communities believe, a matter for commoners to decide. Clearly, most domestic statutory legislation does not agree: let alone consider these critical estates in land to be community assets in the first instance.

The results of this continuing denial that property ownership exists except as recognized by "imported" European laws are clear for all to see in the current land rush. Not just commons but occupied farms and houses are routinely being lost as investors move in. In Democratic Republic of the Congo, for example, villagers with homesteads scattered in the forest have lost their entire domains to commercial crop farmers and now squat in a neighboring National Park from whence they will in due course also be evicted (Mpoys 2010). In Ethiopia, communities are already being relocated from 10,000 hectares allocated to a Saudi-Ethiopian company with many more relocations anticipated as its lease is extended to 500,000 hectares (Oakland Institute 2011). Elsewhere communities are merely dramatically squeezed, retaining houses and farms but losing their woodlands and rangelands. Investors are clearing forests, damming rivers and diverting irrigation from smallholders, causing wetlands crucial to fishing, seasonal fodder production and grazing to dry up and enclosing thousands of hectares of grazing lands for mechanized farming for export. All this happens in Ethiopia, where local food security is already an issue and the specter of famine looms. The Ethiopian government is meanwhile expanding areas designated for investors to grow oil and food crops for export by 900,000 hectares in another region.

Sometimes villagers tentatively welcome investors in the belief that jobs, services, education and opportunities will compensate for the loss of traditional lands and livelihoods. The reality can be very different. Villagers in central Sierra Leone, Rwanda, and Kenya are among those not told that canal construction for industrial sugar cane production would dry up their wetlands, critical for seasonal rice production, fishing, reed collection, hunting and grazing.⁴ Deng (2011) records the case of a community in South Sudan agreeing to hand over 179,000 hectares to a Norwegian company for an annual fee of \$15,000 and construction of a few boreholes; the company aims to make millions on both production and carbon credit deals.

In such cases, traditional leaders and local elites are often facilitators of deals making money on the side at the expense of their communities. Reports abound of chiefs or local elites in Ghana, Zambia, Nigeria and Mozambique *persuading* communities of the benefits of releasing their commons to investors, and even reinterpreting their trusteeship as entailing their due right to sell and benefit from those sales. Central government officials, politicians and entrepreneurs are

routinely on hand to back them up. Such accounts are repeated throughout Africa, and in some Asian states such as Indonesia and Malaysian Borneo, where 20 million hectares have been scheduled for conversion into oil palm plantations (Colchester 2011). Everywhere the story is more or less the same: communal rights are being grossly interfered with, farming systems upturned, livelihoods decimated, and water use and environments changed in ways which are dubious, if sustainable.

Clearly possession is no more sufficient today than it was for the English villagers of the 17th and 18th centuries of enclosure. Only legal recognition of commons as the communal property of communities is sufficient to afford real protection. A handful of states in Africa (and somewhat more in Latin America) have taken this crucial step, setting aside fungibility and formal registration as prerequisites to admission as real property. The land rush instead not only activates the effects of failing to make such changes a thousandfold, it also raises concern that fragile reformist trends will not be sustained. Governments appear to find leasing out their citizens' land too lucrative to themselves and aligned elites, and too advantageous to market-led routes of growth, to let justice or the benefits of the commons stand in their way.

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Genetically Engineered Promises & Farming Realities

by P.V. Satheesh

The biggest problem with genetic engineering in agriculture is that it runs completely against the grain of sustainable agriculture. It separates the domain of science from the domain of farming community. It externalizes everything that was internal to the communities and formed the basis of sustainability: seeds, manure, pest control and more than anything, community knowledge of agriculture. Biotechnology in agriculture today stands as the manifestation of corporate power that is shaping the food and farming policies in India. That is the reason why we must see biotechnology less as science and more as politics.

Genetic engineering (GE), strangely, rides on the slogans of feeding the world and sustainability. It also claims that transgenics, a major product of biotechnology, can increase yields and reduce pesticide use, two traits that have produced more controversy than success. In order to examine the veracity of these two claims let us look at the home of transgenic crops, the United States, which was the first country to grow GE crops and is still the largest planter of GE crops today. Nearly 55 percent of all genetically engineered crops in the world is cultivated in the US. More than 90 percent of all soy planted in US and 85 percent of all corn planted in the US are genetically engineered. In spite of this carpeting of the country by GE crops, has the yield dream been realized?

According to the US Department of Agriculture (USDA), the soy yield in the US did not increase by even 1 percent between 1995 and 2005. These years correspond to the prime GE period in US soy production. Instead of increase, soy yields fell from a peak of 42 bushels/acre in 1994 to 39.5 in 2009. In the interim years, it never touched the peak of 40 bushels/acre. This performance does not look any better when we compare the yields of Round Up Ready Soy, an herbicide-tolerant GE soy, with conventional soy yields. In eight US states where this yield comparison was studied, it was the conventional soy that out-yielded the Round Up Ready Soy in all but one state, according to the USDA. Biotechnologists themselves describe this as "Yield Drag."

Let us look at corn production, another favored GE crop. Corn production in the US, which stood at 140 bushels/acre in 1995, nearly reached 150 bushels in 2008 – a mere 7 percent increase in 13 years.¹ So where is the promised yield? A Kansas University study in April 2008 showed that the productivity of GM crops

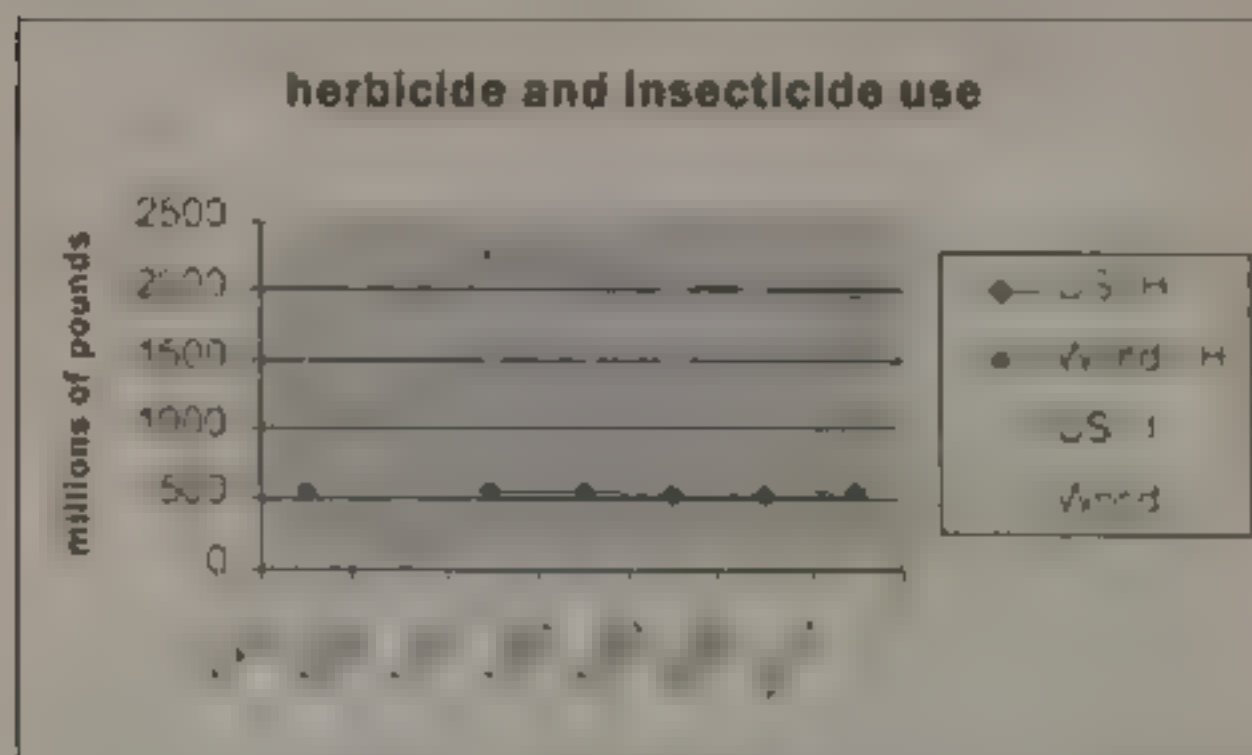
(soya, maize, cotton and canola) was actually greater in the era prior to the introduction of GM seeds. Soy showed a drop in yield of up to 10 percent.

In 2007, Nebraska University found that Monsanto's GM soy produced 6% less than the same variety of the company's non-GM version, and up to 11% less than the best available variety of non-GM soy. Other studies, including a USDA study in April 2006, show similar results. Categorically, GM seeds are not the most high-yielding.

The main reason for the lower productivity of GM crops, the studies explain, is that genetic modification changes the metabolism of the plants, which in some cases inhibits the absorption of nutrients and, in general, demands more energy to express characteristics that are not natural to the plant, denying it the ability to develop fully.

When confronted with these facts, Monsanto's explanation was that 'genetically modified seeds are not designed to increase yields' (Lean 2008). While Monsanto has tried to explain itself out of this corner, its claim that its GE crops reduce pesticide use has not been muted. If at all, this is the resounding noise that the company makes.

Let us examine this claim from the US experience. The graph below issued by the US Environmental Protection Agency explains the total pesticide use in the US compared to the rest of the world. Obviously with more than 55 percent of all GE crops being grown in that country, US pesticide use must be significantly less than the rest of the world. It is not so.



Between 1998 and 2003, world consumption of herbicides and insecticides indicate a clear downturn. But in the US they are as flat as an airstrip, another loud testimony to the fact that GE crops have not been able to decrease pesticide use.

In India it is the same story with Bt cotton, the first and the GE crop grown in the country. The Deccan Development Society, of which I am the Director, and the Andhra Pradesh University in Deemed to University have been advising the impact of Bt cotton, particularly on the small and marginal farmers' fields in the South

Indian state of Andhra Pradesh between 2002 – the year when Bt cotton was introduced – and 2009. What are our findings today?

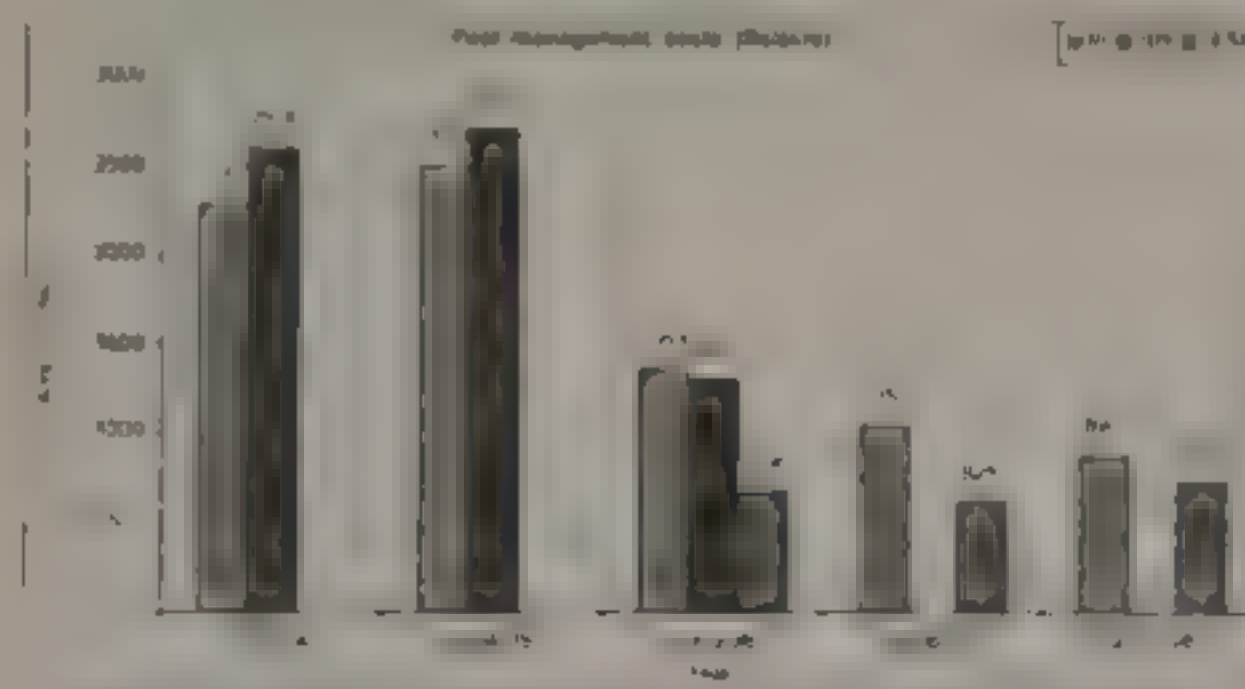
The industry introduced Bt cotton with a bouquet of promises, that

- Bt cotton is a cutting-edge technology
- It is the answer to all cotton problems
- Use Bt cotton. It will lower the cultivation costs
- It will bring down the pesticide use significantly
- It will give farmers higher yields.
- It will earn them higher profits

What was the outcome after five years, in 2007?

- Cultivation costs for Bt Cotton went up significantly
- Bt yields did not increase more than 5 percent
- Pesticide use has failed to come down

Small farmer earnings by cultivating Bt cotton are on the negative. They have lost more than what they have gained.



The graph above on pest management costs incurred by Bt and non-Bt cotton farmers between 2002-3 and 2006-7 tells the complete story (Qayum and Sakkhari 2008). While the first year of Bt cotton gave a marginal pest management edge to Bt growers, the very next year, Bt farmers spent almost the same amount of money as the non-Bt farmers. Bt gave them no special advantage. Between 2005 and 2007 the study concentrated on the comparison between Bt growers and those farmers who had managed their pests under non-pesticidal management (NPM) methods. The NPM farmers scored a clear advantage. Their pest management costs, depending on rain and pest incidence regimes were far lower than the Bt farmers, sometimes just about 50 percent of the Bt farmers.

Over these five years, non-Bt farmers invariably recorded higher net returns than the Bt farmers. In 2004, Bt farmers actually had a negative return while the non-Bt farmers always had a positive return. Another study on Bt cotton in the

south Indian state of Karnataka, by three researchers from the University of Hannover in Germany tells a similar story (Malkarnekar et al. 2006). They found that Bt farmers suffered miserably in the first year and recovered marginally in the second. But even then they had lost nearly 20 percent more money than the non-Bt farmers. Beyond monetary gains and losses, Bt cotton has caused long-term ecological devastation, in the form of serious damage to soil health, the return of forgotten insects, a severe incidence of non-target pests, harm to animal and human health, and death to humans and animals.

Rhizoctonia, the root rot disease which was rarely seen in the cotton belts of Andhra Pradesh, increased from zero in 2002 to 40 percent of the soils growing Bt cotton in 2007. The consequent wilt disease spread like wildfire in many fields, particularly of the small farmers. In despair farmers had to pull out the crops planted by their own hands and burn them. For an Indian farmer, this is akin to killing his own child. Nothing can make them feel more devastated.

One clue to this phenomenon was suggested by a study at the Indian Agricultural Research Institute (IARI), New Delhi, which argued that transgenic Bt cotton may constrain the availability of nitrogen, but enhance phosphorus availability in some soil types in India (Kishman 2008). Another IARI scientist, Dr. K. R. Kranthi of the Central Institute for Cotton Research, Nagpur, said in one of his studies that Bt cotton may affect soil microbes and nutrients available to the plants. While conclusive reasons for soil degradation have not been found, it is clear that the soils growing Bt cotton were turning toxic in various parts of India.

On the pest front, the sucking pests had a heyday occupying the space left by the helioverpa while the long forgotten mealy bug, a pest that once flourished in the 60s, came back menacingly to occupy the cotton crop in Andhra Pradesh and Punjab. As a report in the *Business Standard* (India) explained: "2005, the mealy bugs had destroyed almost the entire cotton crop in several parts of Pakistan, notably in Multan, Sanghar, Mirpurkhas and Tandu Allahyar areas" (Sud 2008). Punjab farmers also paid a very heavy price for this pest, in the 2007 season. Such incidents are warnings that targeting a single pest in a non-holistic fashion, and not the complex causes, is dangerous.

Human and animal diseases

In Andhra Pradesh, Bt cotton weeders and pickers suffered skin allergies that they had never experienced before. The same allergy afflicted animals like goat and sheep. In the year 2005, over 2,500 sheep died grazing the leftover Bt cotton stalks (traditionally cotton fields are opened for grazing after the harvest is over). In the beginning the industry papered over this saying that they were, after all, small ruminants. But when buffaloes also started dying (we have counted nearly 12 of them), the answer by the industry was a deafening silence.

This prompted the researchers from Deccan Development Society and Anthra, an organization devoted to animal health, to start an experiment of feeding the sheep under controlled conditions. Three groups of sheep were separated and each group was fed with stalks from Bollgard I, Bollgard II and Non Bt cotton. While two sheep fed with Bollgard I died within 3.5 weeks of the start of the experiment, one

sheep that fed Bollgard II died within 10 days. By the end of the first week, all the sheep fed with Bollgard had died, while the sheep that did not feed on them stayed alive.

While all this was happening around them, and the farmers started losing their crops, money and hope, a sense of despair enveloped them in the cotton belts of Andhra Pradesh. As a result, several farmers committed suicide. Thus it was ironic that Bt cotton, which was purveyed as a panacea against the farmer suicides, became its cause.

These tragic series of events led to huge protests by Bt cotton farmers. They blocked the main roads through sit-ins, attacked the seed depots, burnt hoardings of Bt seeds and expressed their anger in so many ways. It was quite a dramatic sight to see policemen guarding seed and fertiliser shops from farmers, the very people needed to sustain them.

The Government of Andhra Pradesh instituted its own inquiry into the failure of Bt cotton in 2005 and banned Monsanto seeds. It is another story, but huge pressures from trade and industry as well as the US Government were brought to bear on the Government of Andhra Pradesh, which caved in under such pressures and revoked its ban order.

While all this was happening, the industry continued to paint a rosy picture of Bt cotton. A number of industry-commissioned studies by commercial opinion pollsters claimed that Bt cotton had increased yields, reduced pesticide use, enhanced profits and changed the destiny of cotton farmers. And there were many scientists, prominent among them Dr. Quim of the University of Bonn, who tried to explain away these problems as arising from "susceptible germplasm." The same set of arguments came from a stable of scientists who are committed advocates of biotechnology. All of them continued to claim that Bt cotton was succeeding in helping the poor. How does one explain this obvious contradiction between the ground reality and scholarly assertions?

Danmick Glover (2009) from the prestigious SIDA'S Centre of the Institute of Development Studies, University of Sussex, offers some explanation for this contradiction.

This review of studies on the impacts of Bt cotton in China, India and South Africa shows that there is clear evidence of selectivity in the way that partial ambiguous and equivocal data has been interpreted and represented. In all three cases, the story of success that has been highlighted on the surface has been shown to be, if not untrue, certainly only part of the story. In a number of different, subtle but identifiable ways, encouraging results have been emphasized, while negative ones have been downplayed.

So the controversy rages on. There is no concerted effort by the scientists outside of the corporate control and the government bodies to come together to make a dispassionate analysis of agrobiotechnology, particularly transgenic crops, especially when it is about to make incursions into our food crops. Starting with Bt eggplant, a host of food crops such as rice, mustard and soy are on the verge of getting approval for commercial cultivation by India's weak regulatory body. While on the threshold of this catastrophe, it will be worth our while to look at some of

the warnings issued by Professor Jeffrey Smith (2007) of the Institute for Responsible Science in the US.

The prevailing worldview behind the development of GM foods was that genes were like Lego blocks, independent pieces that snap into place. This is false. The process of creating a GM crop can produce massive changes in the natural functioning of the plant's DNA. Native genes can be mutated, deleted, permanently turned off or on, and hundreds may change their levels of expression. The inserted gene can become truncated, fragmented, mixed with other genes, inverted or multiplied, and the GM protein it produces may have unintended characteristics with harmful side effects.

Thus the promise of biotechnology in agriculture sounds very hollow. As people who have worked at the grassroots with farmers who have planted Bt cotton and have suffered heavily as a consequence, we feel the thick blanket of half-truths that wrap the dark secrets of the "success stories" of genetic engineering.

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This essay is adapted from a presentation made by P.V. Sathesh for the National Seminar on Genetic Engineering, Food and Farming, Institute of Engineers, Mysore, India, on November 7, 2009.

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The Intensifying Financial Enclosure of the Commons

by Antonio Tricarico*

Financial speculation in food commodities has become one of the main drivers of food price volatility, with devastating impacts on small producers and the poor. Yet the disruptive influence of financial speculation on food markets is only a preview of future crises. International financial markets are now attempting to dominate many conventional markets as a long-term strategy to extract greater profits and accumulate capital. While governments have been discussing the issue in the context of the G20's focus on food security,¹ their responses have been insufficient and contradictory so far and do not begin to address speculation in other hard commodities, where prices are even more volatile and the impacts on energy-dependent countries are equally severe.

The systematic financial speculation on commodities (and its systemically influential increase in recent years) has been driven mainly by deregulation of derivative markets. Derivatives markets, which trade in futures contracts and options, among other financial instruments based on other assets, enable the price risks for an asset (wheat, oil, pork bellies) to be transferred from the producer to other parties, often speculators, through the sale of "derivative" financial instruments. Speculation has also soared as investment banks, hedge funds and other institutional investors have jumped into the derivative market, often introducing new financial instruments such as index funds and exchange-traded funds.

All of these trends have been accelerated by financial deregulation, which over the last decade, for the first time in history, has transformed commodities into financial assets. Until the beginning of the 2000s, holding a ton of corn could not produce a revenue stream or rent, other than from sales based on market prices. Today, thanks to financial engineering, such financial schemes are not only possible, they are highly lucrative. The largely unregulated commodity derivatives markets have resulted in greater speculation on food commodities, which can cause high prices and shortages, particularly in poorer countries. Such "financial

* | The author wishes to thank Henke Loschmann for co-authoring the German version of this essay, which improved the insights of the initial English draft.

1 | The Group of 20 is the self-proclaimed club of the 20 strongest economic nations, which together produce up to 85 percent of the world's global GDP. These nations will decisively determine economic and political developments in the decades to come.

innovation" is part of a broader trend that is structurally transforming the global economy and natural resources management.

Contrary to common sense and what civil society often assumes, financial markets are penetrating deeper and deeper into the "real economy" of actual production. Speculative finance is increasingly influencing prices and thus productive output in agriculture and energy as well as natural resource commons that have historically functioned outside of markets. The result: speculative capital is becoming structurally intertwined with productive capital, including the commons as productive realms. This expansion of (finance) capital represents a new stage in the enclosure of natural resource commons and the enclosure of forests, fisheries, arable land and water resources historically managed as commons.

The 2007-2008 crash of financial markets and the global economy, coupled with investors' need to diversify investments beyond traditional markets (including equity, bonds and real estate), has intensified the search for new ways to achieve high rates of return, cover heavy losses that some institutional investors experienced during the crisis, and absorb the massive liquidity of capital that exists globally. These needs have propelled the development and even the creation of new types of financial market risks. But in so doing, financial market operators are reformulating the fundamentals of the real economy where everyday production and consumption occur. A massive financial transformation is underway as financial entrepreneurs create new tradable asset classes out of existing commodities, which provide a physical source of value to support new structured financial instruments.

The new financial assets are being created from existing commodities. And where markets do not yet exist, natural resources are being converted into commodities so they can be traded. Indeed, new commodities and markets are being created from scratch to satisfy the demands by financial markets for new high-return investments.

A very good example of this kind of "Kumpelstiltskin capitalism" – the making of something valuable from nothing, like spinning straw into gold – is the carbon market. These markets trade the right to emit carbon, as authorized by state-issued permits of such rights. Carbon trading rights are also generated by companies through the implementation of projects aimed to reduce emissions in the future and thus to offset real emissions that the same companies are generating today. A carbon credit or certificate is in itself a derivative contract, given that its value is based on the estimated future price of abating carbon emissions. Therefore holding or buying a carbon credit is in itself a bet about the future – something quite different from holding stock in a ton of corn. These rights to emit – or credits and certificates – are then resold on a secondary market, otherwise known as "emission trading." Derivative financial products are built on the rights, credits and certificates, as in the case of other commodities. (In this case, as with other commodities, speculative investors are simply trading financial risks associated with the price of corn, wheat – which itself is highly unstable and virtual.

How are financialization and natural resources connected?

We live in a time of finance capitalism, where trading money, risk and associated products is more profitable than production itself, and often accumulates greater capital than trading goods and services. This has huge implications for where capital is invested and the everyday impact that capital markets have on people, as more and more aspects of everyday life – from home ownership to pensions to schooling – are mediated through financial markets (rather than conventional markets alone). This is what people mean when they talk about the "financialization" of the economy.

Financialization should be regarded as more than just a further stage of commodification. Financialization reduces all value that is exchanged (whether tangible, intangible, future or present promises, etc.) into either a financial instrument or a derivative of a financial instrument. Financialization seeks to reduce any work, product or service to an exchangeable financial instrument like currency, and thus make it easier for people to trade (and profit from) these financial instruments. A mortgage loan, for example, is a financial instrument that lets an employee trade a promise of future wages for ownership of a home. Financialization aims to transform labor, goods and services into tradable financial products as we know it from currency trade.

With financialization increasingly penetrating into the real economy, financial markets, financial institutions and financial elites are gaining greater influence over basic economic policies and economic outcomes. Financialization transforms the functioning of economic systems at both the macro and micro levels of the economy in three distinct ways: 1) It changes the structure and operation of financial markets; 2) It changes the behavior of non-financial corporations (whose profits are more and more generated through financial markets than through actual production); and 3) It changes the priorities of economic policy.

Financialization is now reaching into all commodity markets and transforming their basic functioning. Just as the first wave of financialization focused on privatizing public services such as pensions, health care, education and housing systems (in the quest for better returns on investment), so the new wave of financialization seeks to commodify natural resources. In many instances, this leads to enclosures of the commons, which in turn affects both resource exploitation as well as resource conservation projects.

At the same time, growing global competition for the control and management of natural resources worldwide is intensifying pressures on national economies to exploit natural resources, resulting in what Michael T. Klare calls "resource wars" (Klare 2002). This is not simply a matter of rapid industrialization and emerging economies fueling greater global consumption and competition for limited resources. Resource wars are symptoms of new geopolitical and geoeconomic dynamics. The control of natural resources flows is increasingly seen as a key strategic tool for directing futures markets, political relations and economic development.

2) See essays by Lili Fuhr (pp. 199–202) and Liz Alden Wily (pp. 133–140) in this book.

This trend is quite evident in recent large-scale land acquisitions at an international level by governments and the private sector. Their aim often goes beyond just securing future crop production for their own populations; they want to secure long-term, highly profitable positions in foreign markets to enable them to acquire and process natural resources as well as diversify their investments.¹ In this context, advanced economies, particularly those reeling from the economic crisis, want to expand capital markets in other countries in order to establish a new private financial infrastructure that can generate enough financial resources to develop these new infrastructure investments. Financial markets awash in liquidity are desperate for such new investment vehicles. At the end of 2010, global capital markets were trading more than \$200 trillion, which is almost four times more than the world's GDP according to the McKinsey Global Institute (McKinsey 2011).

The emerging "turbo-capitalism" driven by financialization seeks to address two pressing problems now facing investors: how to invest the massive amounts of private wealth and liquidity present today in capital markets, and at the same time how to create new financial instruments that will generate additional revenues for the financial industry.

Developed markets currently account for \$10 trillion of the estimated total \$41 trillion of global equity market capitalization, according to a recent estimate by Timothy Moe, chief Asia Pacific strategist at Goldman Sachs. Over the next 20 years, global market capitalization could expand to some \$145 trillion, he predicted.² Looking only at private wealth not channelled through institutional investors, private equity funds managed \$2.5 trillion at the end of 2008 (a 15 percent increase compared to 2007 despite the financial turmoil). International Financial Services London forecasts that funds under management will increase to over \$15 trillion dollars by 2015, starting from less than \$1 trillion in 2001.³ More and more private equity funds will focus on emerging economies. Global hedge-fund assets surpassed the \$2 trillion mark for the first time ever, Hedge Fund Research Inc. said in April 2011, marking an impressive industry rebound from market losses and customer flight during the financial crisis.⁴

This new stage of financialization will provide new economic and legal leverage for the further commodification of nature and the commons in general. More and more natural resources will be extracted and commercialized, unleashing a new massive attack on the global and local environment and the common wealth.

Capital markets regard this approach as a vital long-term strategy to secure and lock in a new structure of control over natural resources that assures attractive profits. But this finance-driven structure will also dramatically reduce the ability of communities to reclaim their shared wealth and assert their collective, locally responsive management. This systemic goal of "financial enclosure" of the

commons, when coupled with existing trade and investment agreements,⁵ could produce a long lasting, legally durable enclosure that would seriously diminish (policy) space for any political player and for social movements – farmers, Transition Towns, Occupy Wall Street, and others. Most importantly, it threatens to extinguish the possibility of people reproducing their livelihoods independent of the overwhelming influence of financial markets.

Commodity speculation, infrastructure financing and the invention of new markets

Food, land and agriculture

After the first food crisis, financial speculators such as hedge funds managers acquired strong positions in markets for physical food commodities, most importantly rice, corn and wheat. In 2010, hedge funds dominated 24 percent of the maize market, enjoying the commodity's 34 percent price rally. Hedge funds have also increased their control of the soya bean market by 19 percent, up from 11 percent in 2009. These infusions of finance capital have affected the customary functioning of these markets by enabling large players to engage in market abuses and manipulations that make food prices more volatile. Worse, major trading companies in physical markets, such as Cargill, ADM, BUNGE and Glencore, which already play monopoly roles in several cases, are becoming more and more financialized. This means that they generate most of their profits through financial activities instead of through production for physical commodity markets.

Hedge funds, private equity funds and other investors play a central role in large-scale land acquisition, through international speculative investments. This explains why land in most cases is not put immediately into production. Instead, it is used as a vehicle to hedge against inflation or other investments in the same countries, as a way to enter those countries' markets or as simple short-term speculation in land as a financial asset. New investments in agriculture fostered today by international financial institutions must also be seen as investments in the future financialization of the economy. They aim at deepening financial markets in developing countries (or even building them, where they do not currently exist) by making small farmers and consumers more dependent on debt and retail financial markets. For example, financial institutions wish to encourage farmers to cope with food price volatility by financially hedging their risks, or by buying food commodity futures, weather derivatives and the like.

Oil, electricity and renewable energy

Ever since oil became a highly financialized commodity in the late Eighties, the price of oil has structurally influenced most economic processes in fossil fuel addicted societies. The volatility of the price of oil is thereby transferred to other commodities, including food, with severe impacts on other economic sectors and consumers. This process occurs not only through the workings of the "real

1 See the essay by Liz Alden Wily on pp. 112–140.

2 "Global Capitalism: The New Supermarket of the World," *McKinsey Quarterly*, 2011, <http://www.mckinsey.com/quarterly/GlobalCapitalism/GlobalCapitalism.asp?cid=3635&cid2=3635>.

3 IFSI Research, Private Equity, August 2009, <http://www.thecityuk.com/assets/Uploads/Private-Equity-2009.pdf>.

6) <http://online.wsj.com/article/SB10001424052748701912504376271683369646822.html>

7) See the essay by Beatriz Busaniche on intellectual property rights and trade policy on pp.

147–150.

economy" (as oil prices are incorporated into retail prices) but also through the operations of index funds and other pools of speculative investments.

It is important to remember that major energy companies, such as General Electric and energy trading companies such as Enron, have been highly "financialized" since the Nineties. Their involvement in financial markets and high risk speculative strategies have led to bankruptcy, as in the case of Enron's infamous speculation (and price manipulations) in the price of electricity. Similarly today's major energy traders are investment banks and hedge funds – namely JP Morgan, Goldman Sachs and the RAB Energy hedge fund – that control oil productions and stocks directly or indirectly through participation into energy companies, energy service companies and traders (stocks, options and other financial instruments).

Because of this extreme financialization, any policy strategies to inaugurate a "Green New Deal" that focuses on trying to shift patterns in energy consumption and production will not succeed if it does not contain at its core highly financialized features. This risk should not be underestimated. For example, private equity funds in India – both domestic and foreign – have played a key role in listing renewable companies on the stock market through IPOs (initial public offerings, in which stock is first sold to the public). The fact that these offers became significantly over-subscribed increased the value of the companies to the benefit of short-term speculators. Similarly, several exchange-traded funds have stakes in green technology companies, which has helped to raise their profiles among short-term speculative investors. The financialization of green technologies means that *renewable energy development projects are increasingly selected by short-sighted profit-maximizing financial speculators biased toward resource extraction*.

Metals and other hard commodities

As for other hard commodities – coal, metals and non-metals – mining has already seen a strong influx of speculative capital over the last decade. Hedge funds have been playing a major role in financing mining projects and companies, including coal. Today many of the most significant mining multinationals systematically use derivative-based trading. The recent scam of transfer mispricing involving Glencore and its Mopani copper mine in Zambia⁸¹ is quite telling: the company used option derivatives to lock in copper sales to a Zug-based subsidiary – Zug is a well known tax haven within Switzerland – at below market prices and then the subsidiary was selling at market prices.

It is also telling that major investment banks like BNP Paribas are developing "structured commodity finance" as a new field of operation. This novel approach uses the full panoply of financial engineering based on securitization and derivatives to finance large-scale resource-extraction projects and *companies*. But unlike traditional project financing schemes that simply securitize the expected cash flows, structured commodity finance aims to securitize the expected future

physical output of the project or company by issuing securities that are then tradable on financial markets. Such financial instruments would necessarily lead a variety of investors to intensify pressures on resource extraction, disempowering communities who wish to have some say in how their natural resources are managed.

Water and infrastructure

In July 2011 the chief economist of Citigroup, Willem Buiter, stated in one of the company's regular thematic research briefings: "I expect to see a globally integrated market for fresh water within 25 to 30 years. Once the spot markets for water are integrated, futures markets and other derivative water-based financial instruments ... will follow. There will be different grades and types of fresh water, just the way we have light sweet and heavy sour crude oil today. Water as an asset class will, in my view, become eventually the single most important physical-commodity based asset class, dwarfing oil, copper, agricultural commodities and precious metals."⁸² This vision goes far beyond the current privatization of water services and utilities, it would require a significant increase in the production of fresh water (desalination, purification) as well as the storage, shipping and transportation of water through a network of new dams and large-scale canal systems interconnecting different water basins. In short, water itself would become a financial asset, so that holding a physical quantity of water would generate a financial rent (ecological considerations of the flows and location of water would be considered secondary or irrelevant).

Building new water supply infrastructure would have its own powerful appeal to financial markets because it would require a massive mobilization of capital to build it – once again helping to prop up the huge supplies of capital on global markets searching for profitable investments. Here again, a highly financialized approach will be followed in building water infrastructure, as today is happening with private equity infrastructure funds.

Specific attention should be paid to the toll that financialization has taken on water companies. The much touted public-private partnerships have been significant failures, yet the many privatized water companies – i.e., Obras Sanitarias de la Nación in Argentina, water supplies in Metro Manila in the Philippines, water utilities in Dar es Salaam in Tanzania – are short of financing and not producing profits. But it is becoming harder and harder to reclaim these companies to serve the public good, and eventually convert their capital base into publicly held or commons-based assets, because financial markets have promoted sophisticated bond issuances that have produced crushing indebtedness.

Carbon, forest and new markets commodifying nature

Carbon markets deserve specific attention because they can be seen as a deliberate experiment to try to build a new commodity, from whose trading financial assets and a financial market can then emerge. Today carbon markets are unable to function well primarily because of the virtuality of the asset that is being

81 | A detailed report about the dubious dealings of the Swiss company can be read here: <http://www.zambianwatchdog.com/2011/05/04/detailed-report-on-glencore-mopani-mine/>

82 | Tracy Alloway, "Willem Buiter Thinks Water Will Be Bigger Than Oil," *Financial Times*, July 21, 2011.

traded as well as the absence of reliable mechanisms for pricing carbon. These new markets are a clear example of how a new commodity could be created on the basis of market-based environmental and financial regulations: a commodity that itself is a derivative – a bet on avoiding projected carbon emissions against a disputable baseline.

With the inclusion of REDD credits into carbon markets,¹² forests too will be financialized in the name of the fight against climate change.¹³ This could well hurt people's livelihoods, particularly those of indigenous people living in forest areas. Similarly today there are proposals in the UK and US for establishing markets for trading species, habitats and ecosystems.¹⁴ As in the case of carbon and forests, this would require national – and where possible – international – legislation to create new types of commodities, e.g., commitments to establish a new preserved habitat in the future, to plant trees in the future, or to protect some species – which could then be traded within a cap (a defined limit on the resource established by political institutions), and thus become a financial asset. This would lead to what some scholars and activists have called the final financial project, "Nature Inc."¹⁵

Preventing future enclosure of the commons

Today we are living a paradox where after the crisis, financial markets are reinventing themselves and are even growing further despite some limited attempts to regulate them. At the same time they are displacing public finance and acquiring a larger share over the management and control of natural resources and strategic physical assets. For financial investors and speculators, controlling natural resources offers significant competitive advantages – information asymmetries, arbitrage possibilities, and hedging by putting one sector against another (e.g. energy users vs. food consumers, regardless of the environmental, social and economic implications).

Financial market managers need to diversify the assets they build upon for security reasons and natural resources offer a very safe option if their management is framed under a market-based approach that from the outset is designed to create new financial assets. However, one thing is clear: the further commodification of the commons would generate new liquidity that would directly be invested in financial markets, thus creating new bubbles and crises. Therefore, the financial restructuring of our economies will only worsen the features of our current over-financialized economy, and make exit strategies out of finance capitalism ever harder.

12. For Reducing emissions from deforestation and forest degradation, see http://www.unfccc.int/kyoto_protocol/land_use/land_use_2/items/2005/05_2005_12_13_01.shtml. See also the discussion on the potential of REDD in http://www.unfccc.int/kyoto_protocol/land_use/land_use_2/items/2005/05_2005_12_13_01.shtml.

13. See Joshua Bishop, "The Economics of Ecosystems and Biodiversity in Business and Enterprise" (Earthscan) at <http://www.earthscan.org>.

14. See Andreas Weber's essay on pp. 6–12.

The financial enclosure of the commons has important implications for civil society struggles and organizing. First, the pressures to extract and commodify natural and social resources will further threaten the livelihoods of local communities, already suffering from their own state-led enclosure and development projects. However, to date, communities on the ground are largely oblivious of the new financialization scenarios and the new mechanisms aimed at boosting private profits by shifting risks to governments and citizens. Therefore, there is an urgent need to research and explain in plain words what is new in this process of financialization of the commons and how it goes far beyond commodification. Financialization is actually a new paradigm for securing additional leverage for dispossession. We need to expose the key drivers and actors, and open more political space for struggles on the ground so that different constituencies can co-develop a new analytic framework and political narrative that will advance a shared agenda.

Financialization of natural resources will not just affect "developing" countries, it will also be visible in advanced economies and the European Union in particular where more and more large infrastructure and extractive projects will be pursued provoking struggles and resistance on the ground. This would allow activists to establish new links of solidarity among affected communities, and in particular between advanced and emerging economies, helping to create renewed forms of international solidarity.

Second, we need to better understand the critical role that international institutions and major decision-making forums, such as the G20 and international financial institutions (IFIs), will play in promoting financialization and infrastructure-building in the name of "development." Key governments, IFIs and influential forums such as the G20 are poised to build on previous work carried out on financial regulation and investment agreements. This would entail "advice" by influential governments and institutions to deregulate subsectors of the financial system, such as public pension systems, so that public and private actors could begin to invest in risky long term operations and/or heavily structured financial products.

Third, civil society should open up new avenues of policy that go well beyond market-based mechanisms and public finance for existing fiscal and investment mechanisms. By focusing on alternative approaches to public finance, and by reclaiming and defending the commons beyond market and state, civil society could slow the expansion of financial markets.

Finally, financialization of emerging and developing economies will necessarily have inevitable and severe impacts on development processes. It will have serious macroeconomic and macrofinancial implications that are not yet well understood, even by governments. A broader international civil society discussion questioning both micro and macro impacts of this trend through a sustained narrative could open up new political space for democratizing and reclaiming development processes. In particular, discussions should be focused at the local level by asking a number of key questions: What projects and infrastructure are needed by communities? For whom? For what purposes? What forms of financing

are needed in order to mobilize domestic resources for development of self-reliant communities and promote existing and new alternative projects and processes?

While the impending new wave of financialization is a serious threat, it also opens new opportunities to bridge civil society struggles at both the micro/community level and macro/national and international levels. One can imagine a new and unifying global campaign framework that would evolve from the "our world is not for sale" approach that has animated previous struggles against the global free trade and investment agenda.

What will happen in the very next years will be crucial. The financial industry will seek to build the consensus and legal and physical infrastructure to achieve a finance-driven enclosure of the commons. To make all of this possible, states will be asked by corporate interests to enact new legislation and authorize new financial infrastructures through ad hoc regulations. In part, this is already happening. It is therefore urgent that civil society movements understand the financial industry's ambitions and act to stop them before it is too late.

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Mining as a Threat to the Commons: The Case of South America

By Cesar Padilla

The latest cycle of mining expansion in South America dates from the mid 1990s. Since then, levels of investment in exploration and exploitation have generally held steady. Such investment has benefited from reforms in the laws governing mining in almost all countries, and the high demand for basic minerals for industrial use, especially in China and India, which have translated into high prices. The so-called "financial crisis" of the early 21st century further accelerated the rising demand for precious metals, which are now seen as a "safe-haven" value given the vulnerability of currencies. This trend has meant, in turn, an increase in the number of mining projects in the portfolios of transnational corporations and an expansion of the areas given in concession throughout the region.

The concessions granted to mining interests have soared in Peru, from 7.1 percent of the national territory in 2005 to 15.4 percent in 2009. This in turn has intensified socio-environmental conflicts on territories and communities. In Colombia, President Santos's aggressive promotion of mining ("la locomotora minera") has entailed a substantial increase in mining concessions. According to the Ministry of Mines of Colombia, more than 40 percent of the national territory is being sought for mining concessions. In Argentina, the number of mining projects increased 740 percent from 2003 to 2007 alone, reaching the considerable number of 336 projects (Swampa/Antonelli 2010). In Ecuador, despite the mining mandate (*mandato minero*) that reverted mining concessions to the State during the Constituent Assembly in 2008 (Acosta 2009), there has been an increase in mining concessions, especially along the southern border with Peru.

The increase in areas given over to mining concessions in South America has involved profound disruptions of ecosystems and the communities that have depended on them for centuries. Communities have lost access to their most valued properties that they customarily shared in a sustained manner. The natural and cultural elements that have supported the communities' development, lifestyles and systems of existence – all the components that contribute to the concept of "*vivir bien*" (literally, "living well") – are under siege (Choquehuanca 2010).

Water has been one of the commons goods most affected by mining in the region. Defined as a "thirsty industry" (Cereceda 2007), mining has been

21 See also the conversation between Gustavo Soto Santibesteban and Silke Helfrich on pp. 277–284.

and blackmail to achieve their goals. Mining companies have used a series of financial mechanisms to hide their actual income so that they can avoid paying their due income taxes and royalties (Alcayaga 2005). Such corruption of public servants and white collar crime are further eroding the ethics and morality of South American societies.

The struggle against mining in the region is often presented as opposition to development. In fact, the communities affected and environmental organizations are struggling to recover and exercise their basic human rights. This struggle will continue so long as mining corporations and governments rely upon the mining model to enslave the commons.

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By Mauds Barlow

Half the tropical forests in the world – the lungs of our ecosystems – are gone by 2030, at the current rate of harvest, only 10 percent will be left standing. Ninety percent of the big fish in the sea are gone victim to wanton predatory fishing practices. Says a prominent scientist studying their demise, “There is no blue frontier left.” Half the world’s wetlands – the kidneys of our ecosystems – were destroyed in the 20th century. According to a Smithsonian scientist, we are headed toward a “biodiversity deficit” in which species and ecosystems will be destroyed at a rate faster than Nature can create new ones.

We are polluting our lakes, rivers and streams to death. Every day, 100 million gallons of raw sewage are dumped into the world's waterways, poisoning the water that 1 billion people drink. In other parts of the world, raw sewage is dumped into streams and rivers, polluting the water that 1 billion people drink. A recent survey of water quality in the United States found that 100 million gallons of raw sewage are dumped into the waterways every day. We need to clean up our waterways, to protect the water that we drink, to protect the crops in deserts or to water thirsty cities that dump an astounding 200 trillion gallons of land-based water as waste in the oceans every year. The global mining industry sucks up another 200 trillion gallons, which it leaves behind as poison.² Fully one third of global water withdrawals are now used to produce biofuels, enough water to feed the world. A recent global survey of groundwater found that the rate of depletion more than doubled in the last half century. If water was drained as rapidly from the Great Lakes, they would be bone dry in 80 years. Dirty water is the biggest killer of children, every day in the world. Every day, 100 million children die of disease caused by dirty water.³ In the United States, every city with a sewerage treatment plant is required to treat its sewage before it is dumped into the waterways.

Knowing there will not be enough food and water for all in the near future, wealthy countries and global investment, pension and hedge funds are buying up

1 | C.I. Voronovskiy et al. 2010 "Global Threats to Human Water Security and River Biodiversity." 467 *Nature* (September 30, 2010) pp. 555-561, available at <http://www.nature.com/nature/journal/467/7315/full/nature09440.html>

3 | Cesar Padilla reports on the mining industry's abuse of the environment in Latin America on pp. 157-160.

land' and water, fields and forests in the global South, creating a new wave of invasive colonialism that will have huge geopolitical ramifications. Rich investors have created huge agribusinesses and deforestation, the United Nations estimates, in Africa alone.

The global water crisis is the greatest ecological and human threat humanity has ever faced.

We simply cannot continue on the present path

Quite simply we cannot continue on the path that brought us here. Einstein said that problems cannot be solved by the same level of thinking that created them. While mouthing platitudes about caring for the earth, most of our governments are deepening the crisis with new plans for expanded resource exploitation, unregulated free trade deals, more invasive investment, the privatisation of absolutely everything and unlimited growth which assumes unlimited resources. This is the genesis of the crisis. Quite simply, to feed the increasing demands of our consumer-based system, humans have seen nature as a great resource for our personal convenience and profit, not as a living ecosystem from which all life springs. So we have built our economic and development policies based on a human-centric model and assumed either that nature would never fail to provide or that, where it does fail, technology will save the day.

Two problems that hinder the environmental movement

From the perspective of the environmental movement, two problems hinder progress. First, we have a silo mentality. The environmental movement is fragmented into too many groups, each with its own agenda, and too many groups working in isolation from each other. For too long environmentalists have toiled in isolation from those communities and groups working for human and social justice and for fundamental change to the system.

The clearest example I have is in the area I know best, the freshwater crisis. It is finally becoming clear to even the most intransigent silo separatists that the ecological and social water crisis are inextricably linked and that dealing with either one alone is simply not enough. The environmental movement can no longer be so divided. Its primary concern for fresh water and groundwater is based on a misunderstanding that assumes unlimited supply, when in fact humans everywhere are overpumping groundwater supplies. Similarly, the hope that communities will cooperate in the restoration of their water systems when they are desperately poor and have no way of conserving or cleaning the limited sources they use is a cruel fantasy. The only way to deal with the crisis is to recognize the need for a just system of water distribution.

31 See Liz Alden Wiles essay on pp. 138-140.

The global water justice movement is, I believe, successfully incorporating concerns about the growing ecological water crisis with the promotion of just economic, food and trade policies to ensure water for all. We developed a set of guiding principles and a vision for an alternative future that are universally accepted in our movement and have served us well in times of stress. We are also deeply critical of the trade and development policies of the World Trade Organization, the World Bank and the World Water Council (whom I call the "Lords of Water"), and we openly challenge their model and authority.

Similarly, a fresh and exciting new movement exploded onto the scene in Copenhagen and set all the traditional players on their heads. The climate justice movement, whose motto is "Change the System, Not the Climate," arrived to challenge not only the stalemate of the government negotiators but the stale state of too-cozy alliances between major environmental groups, international institutions and big business – the traditional "players" on the climate scene ...

How the commons fits in

Deeply believe that in order for justice to exist in a private, free system, we need a paradigm which fuses the analysis and hard work of the environmental community with the vision and commitment of the justice community into a whole new form of paradigm – that will allow us and the Earth to survive. At the center of this new paradigm is the need to protect natural ecosystems and to ensure the equitable and just sharing of their bounty. It also means the recovery of an old concept called the commons.

The commons is based on the notion that just by being members of the human family, we all have rights to certain common heritages, be they the atmosphere and oceans, freshwater and genetic diversity, or culture, language and wisdom. In most traditional societies, it was assumed that what belonged to one belonged to all. Many indigenous societies to this day cannot conceive of denying a person or a family basic access to food, air, land, water and livelihood. Many modern societies extend the same concept of universal access to the notion of a social Commons, creating education, health care and social security for all members of the community. Since adopting the Universal Declaration of Human Rights in 1948, governments are obliged to protect the human rights, cultural diversity and food security of their citizens...

Also to be recovered and expanded is the notion of the public trust doctrine, a longstanding legal principle which holds that certain natural resources, particularly air, water and the oceans, are central to our very existence and therefore must be protected for the common good; they must not be allowed to be appropriated for private gain. Under the public trust doctrine, governments exercise their fiduciary responsibility to sustain the essence of these resources for the long-term use and enjoyment of the entire population, not just the privileged who can make negotiable access.

The public trust doctrine was first articulated in 1522 A.D. by Erasmus of Rotterdam who declared: "By the laws of nature, these things are common to all mankind; the

air, running water, the sea and consequently the shores of the sea.” US courts have referred to the public trust doctrine as a “high, solemn and perpetual duty,” and held that the states hold title to the lands under navigable waters “in trust for the people of the State.” In 2010, the US state of Vermont used the public trust doctrine to protect its groundwater from rampant exploitation, declaring that no one owns this resource but rather, it belongs to the people of Vermont and future generations. The new law also places a priority for this water in times of shortages: water for daily human use, sustainable food production and ecosystem protection takes precedence over water for industrial and commercial use. An exciting new network of Canadian, American and First Nations communities around the Great Lakes is determined to have these lakes name a commons, a public trust and a protected bioregion....

Inspiring successes around the globe

As the saying is, “If we listen, nature will teach us how to live.” Again, using the issue I know best, we know exactly what to do to create a secure water future: protection and restoration of watersheds, conservation, source protection, rainwater and stormwater harvesting, local, sustainable food production, and meaningful laws to halt pollution. Maude Barlow has been a leading voice in the global fight for the right to water.

Life and livelihoods have been returned to communities in Rajasthan, India, through a system of rainwater harvesting that has made desertified land bloom and rivers run again thanks to the collective action of villagers. The city of Salisbury, South Australia, has become an international wonder for greening desertified land in the wake of historic low flows of the Murray River. It captures every drop of rain that falls from the sky and collects storm and wastewater and funnels it all through a series of wetlands, which clean it, to underground natural aquifers, which store it, until it is needed.

The natural world also needs its own legal framework,⁴ what South African environmental lawyer Cullinan calls “wild law.” The quest is a body of law that recognizes the inherent rights of the environment, other species and water itself outside of their usefulness to humans. A wild law requires a change in the human relationship with the natural world from one of exploitation to one of democracy with other beings. . . . In a world governed by wild law, the destructive, human-centered exploitation of the natural world would be unlawful. Humans would be prohibited from deliberately destroying functioning ecosystems or driving other species to extinction.

This kind of legal framework is already being established. The Indian Supreme Court has ruled that protection of natural lakes and ponds is akin to honoring the right to life – the most fundamental right of all according to the Court. Wild law was the inspiration behind an ordinance in Tamaqua Borough, Pennsylvania, which

recognized natural ecosystems and natural communities within the borough as “landscapes” for the purposes of preserving and managing the water, land and air.

What can we do right now?

Every now and then in history, the human race takes a collective step forward in its evolution. Such a time is upon us now as we begin to understand the urgent need to protect the earth and its ecosystems from which all life comes.

Anything that helps bridge the solitudes and silos is pure gold. Bringing together environmentalists and justice activists to understand one another’s work and perspective is crucial. Both sides have to dream into being – together – the world they know is possible and not settle for small improvements to the one we have. This means working for a whole different economic, trade and development model even while fighting the abuses existing in the current one. Given a choice between funding an environmental organization that basically supports the status quo with minor changes and one that promotes a justice agenda as well, I would argue for the latter.

I want to leave you with these words from Lord of the Rings. This is Gandalf speaking the night before he faces a terrible force that threatens all living beings. His words are for you. “The rule of no realm is mine, but all worrny things that are in peril, as the world now stands, those are my care. And for my part, I shall not wholly fail in my task if anything passes through this night that can still grow fair or bear fruit, and flower again in the days to come. For I too am a steward, did you not know?” – J. R. R. Tolkien

Maude Barlow (Canada) is an activist, author and organizer who has been deeply involved in the global fight for the right to water. She served as Senior Advisor to the then President of the United Nations General Assembly and received the Right Livelihood Award in 2005. This essay is adapted from a plenary speech given by Barlow to the Environmental Grantmakers Association at its annual retreat in Pacific Grove, California, in 2010.

4 | See also the essay by David Bollier and Burns Weston on pp. 343–354.

Dam Building: Who's "Backward" – Subsistence Cultures or Modern "Development"?

By Vinod Ruina

Very often, the collective assertions of movements for economic, political or social justice represent just the surface of a complex agenda. If one clicks on their claims like on a hypertext, one might unravel its layers and discover the less visible spheres of values, traditions and philosophies that animate them – in short, the identities of the people involved. It is worth looking in this fashion at the social movements of India, which have ranged from Maoist type left-wing armed insurrections to campaigns by *adivasi* (tribal) peasant, worker and *dalit* (low-caste) movements, all of which are overshadowed by the mostly nonviolent nationalist independence movement inspired by Mahatma Gandhi, which enabled the country to oust the British colonists in 1947. Many of these social movements continue today supplemented by the post independence women's and environmental movements.

The vibrancy of social movements is perhaps the best indicator of the deep roots of the democratic ethos in India – far more so than the rituals of elections. And as Priya Kurian notes, "Rarely have we seen the democratic process at work so palpably and so effectively as in the growing mobilization of people against large dams" (Kurian, 1988). During the past ten years or so, anti dam movements, particularly the one against the Narmada dams, have received national and international attention, both from supporters as well as critics who see resistance as a revival of anti-developmental Luddism, the 19th Century social movement of textile workers that destroyed mechanized looms.

Dam building has a long history. Nearly 8,000-year-old canals found near the Zagros mountains in the eastern side of Mesopotamia suggest that the farmers there may have been the first dam builders. These primitive dams might have been small weirs of brushwood and earth to divert water into canals. Nearly 3,000-year-old dams were found in Jordan, as part of an elaborate water supply system. Evidence of such dams dating back to the same era exists also in the Mediterranean, the Middle East, China and Central America. Later on, the Romans were excellent dam builders.

A frenzy in dam building since the Second World War has resulted in more than 40,000 large dams on the world's rivers, according to the "World Register of Dams" maintained by the International Commission on Large Dams (ICOLD). An incredible 35,000 of them have been built since 1950! A large dam is usually

defined as one measuring 15 meters in height. China had eight of them in 1949; forty years later it had around 19,000! The US is the second-most-dammed country in the world, with around 5,300 large dams, followed by the former USSR (3,000), Japan (2,228) and India (1,337).¹ ICOLD defines a mega-dam on the basis of either its height (at least 150 meters), volume (at least 15 million cubic meters), reservoir storage (at least 25 cubic kilometers) or electrical generation capacity (at least 1,000 megawatts – sufficient to power a European city with a million inhabitants). In 1950, ten dams fell in this category. By 1995 the number had risen to 303. "Better river planning" now sites dams so that they cover an entire river basin, emulating the model set by the Tennessee River Valley development project. "Many great rivers are now little more than staircases of reservoirs," as one scholar puts it (McCully 1996).

Resistance to dams grows

Many of the early movements of resistance to dams, like the hard-fought campaign against the 191-meter New Melones Dam in the Sierra Nevada foothills during the 1970s, did not succeed. But the struggle of Cree Indians against Quebec's mammoth James Bay Project led to the abandonment of the last two phases of the project in 1994, the Katun Dam in Russia has been suspended; and the campaign against dams planned for Chile's spectacular Biobio River is still going on. The struggle against the Narmada dams in India since the mid-eighties has become a global "symbol of environmental, political and cultural calamity," according to the *Washington Post*. And Narmada is only one of a long list of examples. In nearly all the cases, citizen opposition to dams is not enough to stop them, even though the people resisting were not remote conservationists, but those directly threatened with displacement.

It is therefore curious that the first successful anti-dam campaign in India against the Silent Valley dam in Kerala, was motivated by conservation. Unlike most Indian dams, few people would have been displaced by the project, but it would have destroyed a major rainforest of the country. The concern for the forest and its endangered inhabitant, the lion-tailed macaque, persuaded the then Prime Minister, Indira Gandhi, to stop the project. The success of the campaign helped stop other proposed dams on the Godavari and Indravati rivers, at Bhopalpatnam, Inchampalli and Bodhgat, which together would have displaced over 100,000 *adivasis* and flooded thousands of hectares of forests.

Dam building in India after independence in 1947 became a major symbol of modernization, scientific progress and a matter of national pride. The first Prime Minister of the country, Jawaharlal Nehru described them as "Temples of modern India." At the time of opening of the 226-meter-high Bhakra dam in 1954, Nehru exulted: "Which place can be greater than this, this Bhakra-Nangal, where thousands of men have worked, have shed their blood and sweat and laid down

1 | This data is constantly updated on the ICOLD website at http://icold-cigb.net/GB/World_register/general_synthesis.asp?IDA=206

their lives as well? Where can be a greater holier place than this, which we can regard as higher?"

The impact of dams soared when dam construction was combined with river basin planning in 1948 with the formation of the Damodar Valley Corporation. Modeled on the Tennessee River Corporation, the project envisaged many dams on the Damodar River and other projects on a number of rivers in the eastern Indian state of Bengal. Though there was no visible campaign against this project, a former civil engineer, Kapil Bhattacharya, in a series of brilliant articles in Bengali, analyzed the likely consequences of the projects with astonishing accuracy (Rama, 1998).

Bhattacharya pointed out that the Calcutta port remained functional only because rivers flushed away silt that had flowed into the port during floods, damming these rivers for flood control, he predicted, would make the port non-functional – which is exactly what happened. He also predicted that government engineers would be forced to divert water into the port from an upstream river flowing into the region then known as East Pakistan (Bangladesh), and that this in turn would create international tensions. Again, this is exactly what happened. He foresaw a backflow of city sewage flowing into Calcutta's port and raising its bed. He even predicted that people would blame the local municipal council, not the dams that were far away from the city and beyond the control of the council. Damodar projects today are seen as a curse by hundreds of thousands affected by them, no one realizes that a rigorous social, economic and environmental impact analysis could have saved a lot of misery.

The Gandhian vision vs. Nehruvian development

From its inception, the Indian state was confronted by two different visions of reconstruction, the Gandhian project of reviving the village economy as the basis of development, and the Nehruvian plan of prosperity through rapid industrialization. Gandhi put his views together as early as 1921 in his book *Hind Swaraj* (India's Self Rule). On the threshold of India's independence (October 3, 1945) Gandhi wrote to Nehru,

I believe that, if India is to achieve true freedom,...then sooner or later we will have to live in villages – in huts not in palaces. A few billion people can never live happily and peaceably in cities and palaces. . . The villager in this imagined village will not lead his life like an animal in a squealed dark room. Men and women will live freely and be prepared to face the whole world... No one will live indolently, nor luxuriously.

"God forbid that India should ever take to industrialization in the manner of the West," Gandhi observed, "If an entire nation of 300 million (nearly one billion today) took to similar economic exploitation, it would strip the world bare like locusts." In 1940, he had already expressed his misgivings regarding centralization, saying, "Nehru wants industrialization because he thinks that if it were socialized it would be better than the existing capitalist system. I have no objection to it, but I

ironworks, machine-making and the like existing side by side with village crafts. But...I do not share the socialist belief that centralization of production of the necessities of life would be the solution. In my opinion, the independence that is promised was not merely an economic independence; it was, most profoundly, an assurance that the culture of the Indian peasantry would reign ascendant.

Jawaharlal Nehru brusquely dismissed Gandhi's vision: "A village, normally speaking, is backward intellectually and culturally and no progress can be made from a backward environment." Nehru's own ambivalence was to surface only a few years later when he talked of the evils of gigantic projects.

The Nehruvian developmental agenda has predominated for over fifty years now. There has of course been a great deal of industrialization in these years and a vast extension of the services of state and semi-state owned development projects, persistently debated, however.

In the case of the Narmada dams, a large number of well-meaning professionals and intellectuals as well as ordinary middle class people ask "Where then will power come from?" and "How can we do without irrigation – what about food?" and so on. These concerns – which need to be differentiated from similar sounding but more aggressive, self-serving arguments made by politicians, construction agents and other vested interests – need to be taken seriously. They are at the heart of the developmentist debate everywhere. But it is necessary to situate the movement against the Narmada dams within the larger socioeconomic, political and cultural realities of India.

Dams and the poor

It is generally believed that any kind of development is finally for the benefit of the "common people." But who are they in India? The general consensus would be the "poor." I believe that an adequate definition of "the poor" is still missing in India.

In developmental terms, the Government defines all those who do not get to eat 2,200 calories or more per day in terms of food as poor. It is highly debatable whether something like poverty should be characterized by an exact line, defined by a single parameter. Orders of estimates, based on qualitative criterion, would likely be more helpful.

We do know, however, that indigenous people, or adivasis, are at the poorest rung in the economic ladder of India. They number about 7 percent, or around 72 million people (more than half the population of Japan) out of a total population of nearly 1.2 billion Indians. On a par with them are the landless laborers and marginal and subsistence farmers with up to an acre of land. There is also a large population of people who subsist on the margins of the economy, as porters, smelters, bamboo and grass weavers, small-scale handloom workers, leather flayers and tanners. If we add the slum dwellers of the cities, there are about 600 million poor people in India. A few more people are poor who manage to survive and subsist, and another one third, composed of lower, middle and wealthy classes, lives in varying degrees of material comfort.

There have been other adverse effects on the "common" population too. Since many of them survive only through free access and use of common natural resources, new legislation transferring forests, minor forest produce, land, water and minerals to the state threatens their basic subsistence and cultures. Contrary to government allegations, the *adivasis* rarely fell entire trees, but rather lop off branches or collect dead wood. The felling of trees is done by contractors who supply fuelwood to big cities, with permission from the same forest department that harasses the poor for using their traditional commons. Even though kerosene and cooking gas is subsidized, it is clear that biomass is going to continue as the main source of energy. Forests have to be conserved so that they can be used sustainably, otherwise most of the Indians will be unable to cook their food.

Imagine what would happen if the land beneath all the world's ground stations for satellite communication were to be acquired for other purposes, say agriculture. The *adivasi* see their lands as similar "ground stations" for their belief systems, and naturally try to resist any attempts at displacement. And they feel puzzled and angry when offered land-for-land compensation. For a non-*adivasi* farmer that may be a reasonable choice, provided the land in exchange is adequate and of good quality. But for the *adivasi* land is not merely material, so how do you exchange one piece for the other?

These are just two examples of what could be considered as the propelling elements for the local people involved in a movement like that against Narmada dams. These concerns remain mostly invisible, however, since the discourse is mostly about "development," which does not recognize beliefs as part of human development. But in fact, the agenda of modernization is not only about "development" (albeit of a very particular, material sort), but philosophical, too. In such an agenda, traditional and ritual beliefs are indicators of "backwardness" that need to be altered and scientifically tempered. Maybe that is why Nehru saw village-based cultures as backward. In a mechanical Marxist framework, such belief systems constitute the "false consciousness" of people that hinder a "proper" understanding of the material basis of life and existence.

Dam proponents see their scientism as self-evidently superior to traditional cultures: Should the *adivasis* live as they have for centuries, as museum pieces, with their cultures and beliefs intact? they ask. Do they not have a right to progress? Of course any social group must have the right to change. But that must happen through a process that ensures that the concerned population is socially, economically and politically empowered to make their own decisions. It must be a process that ensures their dignity to make the encounter between tradition and modernity assimilative rather than violative.

A curt order to vacate traditional habitations for the national interest can in no way allow the marginalized to modernize. It can and does, however, further alienate them. A much deeper debate seems necessary to explore and understand the notion and importance of "belief security," in the same manner as we recognize it in the material sphere. Lest the allusion to something like belief security be misconstrued as a glorification of misconceived irrationality, we need to remind ourselves that beliefs play an active role even in the domain of the rational, the sciences.

The great physicist Max Planck, reflecting on the fierce opposition to ideas of quantum mechanics (about which he himself was initially skeptical even though he was the first to uncover them), maintained that logical arguments and experimental evidence did not immediately change his previously held beliefs. Opposition to new views wanes, he argued, simply because the older generation of scientists dies and the new ones with different ideas grow up – an idea not much different from the Kuhnian notion of the paradigm shift that occurs over periods of time in the evolution of scientific knowledge. These shifts have to take place in an atmosphere that provides the freedom to explore and exercise choices. When that freedom is taken away, the opposition and resistance of people can be stunningly powerful. After all, cultures, beliefs and local life systems cannot be forcibly changed, no matter how competent the coercion is technologically.

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Vinod Raina (India) is a physicist and an activist with the People's Science Movement working on science-society issues involving the Bhopal gas disaster, big dams and their impacts. He has been working on the clash between the use of resources for economic growth versus the people's right to reclaim their commons. Raina is Editor of *The Dispossessed – Victims of Development in Asia*.

Belo Monte, or the Destruction of the Commons

By Gerhard Dilger

for Glenn Swthes

We, the people of Rio Xingu, want our forests to remain standing, we want our fish and other animals to live. We want to keep our fields and our traditional medicines. We need a clean river for bathing, and we want to drink water without getting sick. We want to live in peace. We want to be happy on our land and celebrate with our children and grandchildren in the future.

Shirley Juruna, Altamira, Brazil, May 23, 2008

Frenzied growth instead of "the good life"; authoritarianism and nepotism instead of participation; privatization of nature instead of fair use of the commons – the Brazilian government's decision to build the enormous hydropower plant Belo Monte in the Amazon area is an example of how resource conflicts are still being solved, even in those South American countries with progressive governments.

President Dilma Rousseff, who took office on January 1, 2011, argues that the megaproject is essential for the "development" of Brazil and the region of the Xingu, a tributary of the Amazon – but her argument is threadbare. Simply modernizing the dilapidated Brazilian transmission network would yield several times the amount of energy that Belo Monte is supposed to produce from 2015 and beyond. Her statement must be placed in the context of recent decades. Rousseff and her predecessor Luiz Inácio Lula da Silva have taken up the concepts of development propounded by the Brazilian generals in the 1970s who recruited "people without land" to migrate to Amazonia – allegedly a "land without people." Those were the years when the Transamazônica was built, the dirt road that connects the Xingu region with Belém, the capital of the federal state of Pará, today. Those were also the years of the initial plans for the dam complex on the Rio Xingu.

A broad resistance movement, the first of many, prevented the realization of the project in the late 1980s. The World Bank eventually withdrew a loan worth millions following international protests. None other than Lula, the former trade

union activist who also owes his rise to the presidency to the force of the social movements, revived the megaproject in 2004.

In an alliance with domestic and international capital as well as corrupt regional elites, the dominant wing of Lula's and Rousseff's Workers' Party pushed the Belo Monte project through against the wishes of the population affected by the project. And they did so despite assurances to the contrary, as Erwin Kräutler, the bishop of Altamira and winner of the Right Livelihood Award, emphasizes time and again. Dilma Rousseff systematically avoids talking with the "eco-social wing" of her political base.

Not only is Belo Monte's value to the economy questionable – so are its benefits in entrepreneurial terms. The construction consortium Norte Energia can survive only thanks to state electricity companies and various state pension funds. Low-cost loans from the development bank BNDES, itself funded by Brazilian taxpayers, finance 80 percent of its construction contracts.

Nonetheless, a large part of the electricity subsidized in this way is likely to benefit private steel and aluminum works, thus reinforcing Amazonia's role as a supplier of commodities to Europe, North America and Asia. Brazilian multinational construction corporations as well as European companies such as Andritz, Alstom, Voith/Siemens and Mercedes-Benz benefit from the contracts.

In August 2011, the federal prosecutor's office in Belém filed another suit against the construction of Belo Monte – on the remarkable grounds that it would violate not only the rights of the indigenous people, but also those of nature. This is the first time in Brazilian legal history that an argument based on the rights of nature had been made. Such rights were first established in Ecuador's new constitution in 2008.

"Humanity is moving toward recognizing nature as a legal entity," argues prosecutor Felício Pontes, "clean air is no longer considered *res nullius*. It is becoming *res omnium*." Yet there can be no doubt that the Brazilian courts will rule in favor of the powerful, just as the environmental agency Ibama has to yield to the president's directives.

The pace of tropical deforestation is already increasing today. Pontes estimates the area at risk to be 5,100 square kilometers – ten times the area of the planned reservoir. For months at a time, more than 100 kilometers of the Xingu will practically dry up – which will cause the loss of the living environment of the indigenous Arara and Juruna who live there. Belo Monte and the dozens of other planned dams in Amazonia are paving the way for further exploitation of the most diverse resources. Such megaprojects for resource extraction are an expression of outdated ideas of growth to which the Left in Latin America is still committed,¹ Pontes states. "This rapacious development model runs counter to the protection of the environment. It does not consider the environment to be the house where all living things are at home." In this context, liberation theologian Kräutler speaks of *Mitwelt* (German for the environment with which we live and interact) rather than *Umwelt* (the environment around us).

1 | US documentary filmmaker and long-time activist in the international anti-dam movement. He helped coordinate the resistance against Belo Monte until his unexpected death in 2009.

2 | The concept of good life is presented in a conversation between Gustavo Soto Santiesteban and Silke Heifrich on pp. 177–181. Vinod Rana discusses the problem of dams on pp. 166–171.

1 | See Cesar Padilla's essay on pp. 157–160.

The commons are still facing enclosures

One can distinguish three categories of threats to the commons. First, those that turn over common-pool resources themselves; second, those that threaten the commons by appropriating them; and third, those that threaten the commons by appropriating them. The first category includes those who, by their actions, turn over common-pool resources themselves. Such threats to the resources themselves exist with respect to the new emerging sectors. A commons such as Wikipedia is easily subject to different forms of "pollution," such as dishonest articles, propaganda and distortions. This demands constant attention and considerable energy from the Wikipedia community to take note of, monitor, and correct such cases of pollution. It is energy drawn away from the capacity to construct an even more complete encyclopedia. Similarly, the commons of world scientific research may also be contaminated by fraud, which erodes collective confidence in the research while boosting the careers of deceitful researchers. Deceptions may at times lead the scientific community to pursue dead-end lines of research and ignore more promising research priorities.

The threats to the commons are also threats to communities, their existence and their ways of life. The dispersion of communities, generally due to violence, is the main form of attacks on the commons. One could even apply the term "petro-violence" to designate the ways in which the mad search for fossil fuel hydrocarbons has destroyed the environments of peoples living on oil-rich lands. With the new technologies for prospecting for water tables, or exploitation in difficult conditions such as under the Arctic, or in the great depths of the sea, this petro-violence seeks to capture global common-pool resources for its own profit. The disastrous experience of the explosion of the Blue Horizon oil platform in the Gulf of Mexico in 2010 – which has imperiled the marine ecosystem as well as the coastal economies (very low shrimp production in 2011) – illustrates this point.

Communities may also be victims of internal conflicts provoked by enclosures. Biopiracy is a major example of this phenomenon. It is very difficult to designate an identifiable "community" that can be said to "own" knowledge described as "traditional" – for example, cultural knowledge about the medicinal properties of a plant. Such cultural knowledge is constantly being circulated, and no border has kept people from transmitting their wisdom to one another. Yet rules negotiated at the World Intellectual Property Organization (WIPO) propose a model for distributing benefits that would assign rights to "communities" that possess "traditional knowledge" – two terms that are difficult to define in legal terms.

When nations and corporations therefore try to introduce notions of intellectual property, biopiracy is a major example of this phenomenon. Even when defined as "traditional knowledge," it can provoke internal community conflicts. The same can be said of current so-called land grabbing now occurring internationally, especially in Africa, when communal lands are sold by the village

11 See Michael Heber's essay on the "tragedy of the anti-commons" on pp. 68–72.

leaders to large foreign companies, speculators and even states, to the detriment of the prior collective uses.

Indigenous communities refer to their existence using the term "peoples," a term that has been recognized by the United Nations. There is a major danger of ignoring the acquired forms of representation in order to leave it up to the appropriators to choose and designate a "restricted" group of actors with whom to negotiate the exploitation of their knowledge. Then, the limited returns to those who possess knowledge induce suspicions and internal wars, ultimately destroying the forms of solidarity that had been part of a community's way of life.⁴ Sometimes outside actors – corporations and states – seek to buy off certain major actors in the communities to get them to work outside the collective circle. One encounters this phenomenon in both the traditional communities and in networked communities such as developers of free software or university researchers, who often sell their community-derived expertise to large proprietary software companies.

The threats to the very activity of creating and maintaining the commons – "commoning" – often occur when laws external to communities are imposed on them. For example, when the patent offices of the United States and Japan allow information and technology companies to take out patents on software or business methods, as they have since the 1980s, they limit the possibilities for the open exchange of code, algorithms and knowledge within the community of free software developers. This means that there will always be a patent to hinder the use of a method or protocol, especially since patents are often formulated in general and very vague terms. Patents can override community rules that developers have adopted, such as the General Public License, which had previously assured the sharing of computer code.⁵

Commoning is also hindered when that which belongs to everyone, or which was not appropriable by anyone, becomes a marketable good. The growth of mass tourism, for example, has dealt blows to landscape management practices. When researchers at their universities can take out patents, and indeed when they themselves are interested in marketing their research instead of transmitting it in disinterested fashion to students or society in general, knowledge, whether traditional or emerging from public laboratories, can no longer be shared and serve larger global interests.⁶

The sources of the new enclosures

The new enclosures are the result of the following steps: the enclosure of the commons, the enclosure of the commons, and the enclosure of the commons.

The new enclosures are the result of the following steps: the enclosure of the commons, the enclosure of the commons, and the enclosure of the commons.

41 Julie Duchatel and Laurent Gadeselle, eds., 2012, "La propriété intellectuelle contre la biodiversité?" *Geopolitique de la diversité biologique* CÉTIM 217.

42 For more details on the GPL, see Christian Siefkes' essay on pp. 289–294.

43 A concrete example is examined by Christian Godt, Christian Wagner-Ahls and Peter Timmermann on pp. 422–427.

multilateral negotiations. This was quite clearly how "colonial laws" dispossessed the communities of the dominated countries. Today international laws and regulations concerning "intellectual property" often play the leading role, with all the ambiguities with which this term is fraught.⁷

Enclosures may also be animated by new technological discoveries and inventions. The appropriators install locks "inside" the shared resource in order to limit its capacity to be shared or to be reproduced at a low cost, so that it must be purchased. Digital Rights Management systems (DRM) are the very symbol of such enclosures by means of technology. The publisher of a digital resource in a DRM decides how a work may be used, often to the detriment of collective uses (libraries), the specific situations of the buyers (requiring that one buy or use certain machines or software), or hitherto legal forms of sharing (private copying). Once encryption is designed into the governance of a resource, one can no longer turn to the courts or social norms to settle the shared use of a resource; rather, its sharing is governed directly by the need to possess a key for de-encryption, which ties the user to the producer. It is this relationship of dependence on producers that recent copyright laws seek to reinforce (the European Union Copyright Directive in Europe, the Digital Millennium Copyright Act in the United States, etc.).

This model of locks built into resources is in the process of taking over the world of living beings. First with genetically modified organisms, or GMOs, which are a "property market," but especially by Genetic Use Restriction Technologies, or GURTs, which block certain traits in plants that can only be made operational again by adding a chemical product.⁸ "Terminator" procedures, which block the reproductive capacity of plants, are one application of GURTs. Still other new forms are expected to emerge and further subjugate agriculture to the providers of modified seed and the corresponding chemical product. If successful, GURTs will call into question the centuries-old logic of sharing seeds and cuttings, not to mention possible military applications.

New business practices are also enclosing the commons in novel ways. Industrial agriculture, for example, is attempting to consolidate landholdings, which often takes lands that commoners have used for generations. It is also producing calibrated fruits and vegetables, which require that one purchase certified seed, which in turn require the purchase of specific chemical inputs. This disrupts the traditional model of seed exchange used by village communities, which has guaranteed biodiversity in the peasants' fields and adaptation of crops to specific locations.

The very success of certain practices in commons can paradoxically be threatening because they attract new types of users who do not share either the goals or the common experience of the first communities of users. One example are newcomers drawn to free software because they need not pay but then behave like consumers rather than user-contributors by failing to exchange knowledge and

reinforce the community. Another example are tourists, whose commercial visits modify the structures of village relations and encourage seaside construction to the detriment of the mangroves. The outside wealth brought by tourists can contribute a new ruling class and erode the ways of life and local access to natural resources. Organized mendacity, where children can get tourists' money easily instead of going to school, becomes an economic activity that supplants work in the

commons.

The processes described above are just some of the new forms of enclosure that threaten the commons in a world dominated by technology and in which international relations are marked by stark inequalities. These new enclosures affect both commons tied to nature and those directly produced by communities of exchange and sharing, especially in the digital domain. With technology replacing barbed wire, the forms of enclosures have become more subtle and less visible. Yet the logic of destruction of communities and new limits imposed on collective practices and commoning, remain the same as in the long history of enclosures of land.

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7) Beatriz Busaniche discusses intellectual property rules in the framework of the international trade agenda on pp. 206–210.

8) See PV. Kacheesh's essay on genetically engineered crops in India on pp. 143–146.

Good Bye Night Sky

By Jonathan Rowe

Jonathan Rowe, a long-time activist/thinker, wrote extensively about the deep limitations of conventional economics, the spiritual pathologies of market culture and the appeal of the commons in imagining a better world. He was an editor at the Washington Monthly magazine, staff writer at the Christian Science Monitor, and the first director of the Tomales Bay Institute, later renamed On the Commons. This essay was published on September 4, 2007, on Onthecommons.org. Rowe died suddenly on March 20, 2011. The online archive for his writings can be found at <http://www.jonathanrowe.org>.

There was a time, a few days ago in human history, really, when people spent a lot of time looking at the sky at night. To read Greek mythology, and Shakespeare's plays, one might guess that people were as familiar with the constellations, as they are with corporate brands today. Or close at least. Of course, it was possible back then to see the sky at night. As David Owen pointed out in a recent *New Yorker* piece (August 20, 2007), in Galileo's day – about 400 years ago – people thought the Milky Way was a continuous ooze, so densely packed were the heavens to the naked eye.

Today we can see only a fraction of what was easily visible back then. We are enclosed in a visual cocoon, and the cause is not just the smog and fumes that fill the sky. Even more it is the light. "Today a person standing on the observation deck of the Empire State Building on a cloudless night," Owen writes, would see "less than 1 percent of what Galileo would have been able to see." We emit so much illumination – if that's the word – down here below that we have lost the capacity to see above.

It is not just New York City. One common metric rates the darkness of the sky on a scale of one to nine. Galileo's sky was a one. New York City is a nine. The typical US suburb is five, six or seven. There are only a few places on earth – the Australian outback is one – where one can see the sky our ancestors did. "For someone standing on the North Rim of the Grand Canyon on a moonless night, the brightest feature of the sky is not the Milky Way but the glow of Las Vegas, one hundred and seventy five miles away."

If you have in mind to get away from it all in the Lower Forty-Eight, you can pretty much forget it, sight-wise at least. At the utilitarian level of most US debate, there are many implications, none of them good. Excess light, and the resulting

interruption of circadian rhythms, has been associated with breast cancer in humans and the decimation of insect species. The waste of electricity is in the billions of dollars. Most outdoor lights – such as streetlights – are unshielded which means they send more light sideways and upwards than they do down at the intended object.

Calgary, in Canada, cut its electricity bill by more than \$2 million a year, simply by switching to shielded street lights that direct their light downwards. Then too, outdoor lighting often is counterproductive to begin with. It puts glaring light on one spot and so induces night blindness to the darkness that surrounds. The California Department of Transportation has found it safer and more effective to use passive guides such as reflectors, rather than overhead lights.

Security lights often help burglars by lighting up possible entry points. Motion detector lights are much more effective because they attract attention by the very fact of turning on, and they save greatly on electric bills. It is a curious feature of this thing we call "the economy" that it befores the sky with its version of light, and in the process emits the substances that are causing the climate to warm.

If that is an economy then I wonder what a dis-economy would be. But there is something more about the enclosure of the night, something that is elusive to state but no less important. It goes to the depletion not just of the earth's resources but also of our own. The night sky always has drawn human thought outward and beyond itself. Myth was born here, as was (not coincidentally) the puzzlement of children as to what lay beyond the stars, and what beyond that, and what set it all moving and keeps it all in place.

G. I. Gurdjieff, the teacher who grew up in Asia Minor wrote in his autobiography (*Meetings With Remarkable Men*) about his father, an *ashukh*, a poet and narrator, who sang long narrative poems – memorized or improvised on the spot, to haunting melodies. People would gather to hear him sing these in the evening and the large night sky was an apt setting for narrations that dealt with archetypal characters who existed out of time – stories that reached deep into the psyche, rather than with the minutiae of this person or that.

Today there is a small and ingrown quality to our stories – which is to say something small and ingrown about the way we see ourselves. The enclosure of the night sky with manufactured smog and light has reinforced the enclosure and shrinkage of the psyche that inhabits it. Shut out from the free expansive space that draws us out of ourselves, we get sucked deeper into commoditized entertainments and commercial importunings that spiral endlessly in a tautological loop of self.

I cannot prove this. There is no way to, really. But I have a feeling that what is called "depression" is related to this shrinkage, and the devolution of awareness into a claustrophobic little market "me." My wife, who grew up in the Third World without electricity, and who walked many miles through fields and woods by the light of moon and stars, to this day has night vision that is uncanny. She sees clearly where I stumble.

She also never heard of this thing we call "depression" until she came to the US. A biochemical fact to us, it was a social artifact to her. This is climate change in more ways than one.

Crises, Capital and Co-optation: Does Capital Need a Commons Fix?

By Massimo De Angelis

Today economic crisis is a capitalist crisis of social stability, not a simple recession—that is, a crisis that requires a realignment of class/power relations and new systems of governance in order to re-establish growth and accumulation.¹ The last two times in which a real change in capital's governance occurred (in the post-World War II period with the embrace of "Keynesianism" and in the late 1970s with the shift to neoliberalism) followed periods of intense social struggles that helped social movements imagine alternative socio-economic arrangements. Capital, fearing that "ideas gripping the masses" might propel a radical transformation, was suddenly willing to shift its "governance" paradigm to accommodate some social demands while cutting deals with some segments of the movement and dumping the cost of doing the new paradigm onto other communities and environments across the globe. Pitting one sector of the social body against others has always been a strategy of capital development.² But this time things are getting a bit more complicated. My first thesis is that in facing this crisis of social stability, capital faces an impasse. By "impasse" I mean that vital support for the growth of the social system is no longer forthcoming in sufficient degree, especially from the environment in which the capitalist system operates.

Capital, understood as a social force organizing social cooperation for the purpose of accumulation, has a twofold environment. The first is constituted by social systems that reproduce the various facets of life in non-commodified ways. Access to money is, at most, only a means through which needs are satisfied and not an end in itself, as it is for capital. When the purchased commodities exit the market sphere and enter the spheres of social cooperation (households, associations, networks, etc.) they often enter the complex, culturally and politically diverse and variegated sphere of the commons. It is here that the cultural and physical reproduction of labor power—the value-creating commodity so critically

important for capital occurs – outside the control of capital but, of course, strictly coupled to it.

The other system that capital depends upon is the ecological systems upon which all life and social organization depends. The impasse that capital faces consists of the devastation of systems of social reproduction through reductions of wages and welfare over the past 30 years as work has become more atomized, flexible and precarious as well the increasing inability of natural ecosystems to support capital in its endless quest for greater resource extraction and cost-shifting externalities, such as the free use of the atmosphere as a waste dump.

In this sense, capitalism has reached an impasse, the overcoming of which, if done in its own terms, will produce a social and ecological apocalypse at worst, and an intensification of social conflict at best.

How can capital overcome this impasse? The difficulty lies in the fact that if the system has to survive it will have to continue to push for strategies of growth, i.e., accumulation. Capital's systemic necessity for growth derives not only from its elemental need for accumulation through a cost-cutting and cost-externalizing process of competition. Growth is also necessary as a way to reconcile a profit-maximizing mode of production with hierarchical modes of distribution. If "all boats are lifted by a rising tide" there will be less pressure to address inequality and redistribution called upon by struggles for social justice.

Yet today, all the strategies and fixes available for capital to pursue growth in the world system will only intensify the crisis of social and ecological reproduction, amplifying and widening the range of resistance even if there is no focal programmatic point.¹ Capital is therefore pressed to shift the mode of governance of social relations – or at least to fine-tune neoliberal governance in such a way to contain the costs associated with the crisis of social reproduction and limit public expenditures necessary to police and control the rebellions generated by the crisis. In either case, capital needs other systems and forms of sociability to fortify its agenda.

This leads me to my second thesis: to solve or at least to address this impasse, capital needs the commons, or at least specific, domesticated versions of them. It needs a commons fix. Since neoliberalism is not about to give up its management of the world, it will likely have to ask the commons to help manage the devastation. And if the commons are not there, capital will have to promote them somehow.

On the other hand, commons are also systems that could do the opposite: they could create a social basis for alternative ways of articulating social production, independent from capital and its prerogatives. Indeed, it is difficult today to conceive emancipation from capital – and achieving new solutions to the demand of *turn now* social and ecological justice – without at the same time organizing on the terrain of commons, the non-commodified systems of social production. Commons are not just a “third way” beyond state and market failures, they are a vehicle for *claiming ownership* in the conditions needed for life and its reproduction. The demands for greater democracy since the 1970s – now exploding worldwide in

11 For a discussion of risks of sexual stability as opposed to other forms of crime, see De Angelis, 2007a.

3) For a historical and theoretical discussion of the various ways in which the concept of the commons has been used in the past, see *Midnight Notes and Friends*, 2009. For a discussion of the current interventions in *The Commons*, No. 13, Spring/Summer 2007. For a discussion of the current traps along the lines proposed here, see *Midnight Notes and Friends*, 2009.

4) David Harvey (2007) uses the term "fix" to discuss different capitalist strategies to deal with crises.

the face of the social and economic crisis, are really grassroots democratic demands to control the means of social reproduction. Democratic freedoms imply personal investments and responsibilities, and commons are vehicles for negotiating these responsibilities and corresponding social relations and modes of production. That is what Peter Linebaugh calls "commoning."

Hence, there is in fact a double impasse, for both capital and the social movements. Capital needs the commons to deal with the crisis as much as social movements need to confront capital's enclosures of the commons in order to construct serious alternatives and prevent capital's attempts to co-opt the commons. Hence, it is crucial not only to defend existing commons from enclosures, but also to shape new commons as they become a crucial terrain of struggle. This value struggle lies at the heart of the commons' potential as a social system and force that might overcome the hegemony of capital. This struggle between the value-generating logic of the two systems has not been sufficiently addressed in commons literature.

Commons and capital as social systems

Commons operate within social spaces that are not occupied by capital, whether these spaces are outside or inside capital's organizations. Thus we find commons in community organizations and associations, social centers, neighbor associations, indigenous practices, households, peer-to-peer networks in cyberspace, and in the reproduction of community activities that are organized within faith communities. We also find commons on the shop floor of factories and in the canteens of offices among co-workers supporting one another, sharing their lunch and developing forms of solidarity and mutual aid. We find commons and commoning in the "pores" of social labor that capital cannot control in spite of its always "revolutionary" management strategies.

These commons practices are possible to the degree they fill spaces not occupied by capitalist practices. For this reason, whenever the value-struggle between the two different ways of giving value to human activity reaches a structural limit – and there is no social space left for capital or the commons to develop without contesting the other – a *frontline* is established. Reaching this frontline is, from the situation of commons, the opportunity to mobilize against the capitalist logic, or to capitulate to it, depending upon a given situation of social powers.

The fact that a frontline is or can be reached between commons and capital is because commons are a special type of social system. Within its realm, there lies the possibility that its labor activity organization and patterns of social relations will not succumb to external pressures, but instead organize its own reproduction autonomously following criteria of equity and justice as defined by the commoners themselves. This possibility depends on the contingent power relations within the commons, on the power of networked commons, and on forces outside the commons, such as capital. The commons therefore represents a field of possibilities in the struggle against capital.

Of course, the capitalist organization of production seeks to limit these possibilities and to keep the commons at bay, and at the level of their articulation through the market. For example, labor must succumb to the bottom line of capitalist development, it is profit – not the actual contributions of social labor to well-being or *buen vivir* – that defines whether the social labor mobilized in production and reproduction will be considered viable. This implies that struggles within capital for better conditions of work and life can bring about positive emancipatory change for some. However, to the extent these struggles are channeled into profit-seeking capitalist development, these changes also imply higher costs of social reproduction for capital and therefore the need to shift these costs onto other nodes of social production and on the environment, if capital as a system is to survive. The last wave of capitalist globalization is a vivid example of this dynamic.

Commons and capital

The relation between commons and capital is necessarily ambiguous, since their codependence and co-evolution makes it difficult to point out which of the two systems uses the other. This ambiguity can best be illustrated by looking at the paradigmatic role that the "village commons" has in relation to capital. In a classic study, the anthropologist Claude Meillassoux argued that the work of reproduction and subsistence going on in the village commons in South Africa (mostly carried out by women) allows male laborers to migrate and be available for employment for cash crop or other types of waged work. The work in the village commons reduced the cost of reproduction of these male workers since capitalists who hired them did not have to pay for the cost of their upbringing, or contribute to any social security in case of illness, unemployment or old age retirement (Meillassoux 1981). But Meillassoux also recognized the ambiguous character of the contemporary village commons. If the subsistence-producing commons is too "unproductive," capital loses important aspects of the "free gift" of labor power, while if it is too "productive," fewer workers would migrate out of the village commons, pushing wages up (Caffentzis 2004).

In other words, the relation between the commons and capital is a relation between two autopoietic social systems of production whose mutual interlocking and metabolic flows are regulated by the internal dynamic in each system.

This ambiguity at the heart of the relation between commons and capital means that questions of social power (understood as access to resources and the sense-orientation of the commoners vis-à-vis capital) can be pivotal. The social contingencies of this struggle means that questions of whether a commons can be co-opted or be able to evade co-optation. The latter is not a question of a structural field of possibilities, one that requires situated judgments based on context and scale. For example, many would argue that access by commons to markets to meet some of their needs is by definition evidence of their co-optation, while in fact it could be a contingent strategy of survival and a precondition for their reproduction.

One key variable in defining the outcome of this ambiguity is the wage rate, in both its "private" and social component. A lower wage rate reduces, among other things, the ability of people to spend time and pool social resources in the commons – to engage in commoning.

Some current examples of commons co-optation

The increasing dependence by capital on the commons does not curb its desire to enclose commons, however, as we see in the recent international land grabs now underway.⁴ Rather, it is likely that, in addition to enclosures, capital will also attempt to use commons to fix many social problems created by the crisis and co-opt the commons as a possible challenge to capital's management. Enclosures and commons co-optation seem to be the two complementary coordinates of a new capitalist strategy.

This can be seen in the World Bank's approach to development in the global South. For years it has emphasized the importance of some aspects of commons management, such as pooled resources, community participation, and "trust" as social capital, among others. Whereas communities may create credit associations to pool savings and self govern their distribution through "financial money commons" (Podlashuc 2009), development agencies rely on the same principles to tie communities to banks and microcredit institutions and to promote their dependence on global market circuits. In this fashion, bonds of solidarity and cooperation that are nurtured in commons are turned into mutual control and the threat of shame to serve market interests (Karim 2008).

In Britain, a coalition government of conservatives and liberal/democrats has overseen massive cuts in public spending since 2010, and now are promoting a vision of "Big Society" that claims to support community empowerment to address social upheavals. The agenda of the neoliberal era is continuing apace, as if no crisis has happened, even as the ruling class clearly recognizes the social and environmental problems caused by this agenda. Unlike Margaret Thatcher in the 1980s, who said that society "does not exist," the conservative prime minister Cameron wants to turn it into a "Big Society" – continuing a strategy of community involvement already pursued by New Labour in the U.K. as well as by governments in the U.S. and Canada (De Filippis et al 2010). According to Cameron, governments needs to "open up public services to new providers like charities, social enterprises and private companies so we get more innovation, diversity and responsiveness to public need" and to "create communities with oomph."

But this approach requires recognizing that resources are not simply financial, but that resources lie dormant in fragmented and atomized communities, and need to be activated through some form of commoning. People need to take matters into their own hands by, for example, connecting diabetes patients, the elderly or the marginalized youth into self-help groups.⁵ There is of course nothing new about

the idea of mobilizing communities to clean up their neighborhoods. But what seems to be emerging in discourses such as the "Big Society" is a commitment to a faster speed and scale to work with commons, which might or might not be able to take a long time to be adopted.

Another discourse pioneered by capital to use the commons to serve its interests is the idea of "sustainable communities," a term used in urban planning and design circles when proposing new financial centers, shopping malls or megavenues like the Olympics. The basic idea of "sustainable communities" is that they "can stand on their own feet and adapt to the changing demands of modern life" (Sustainable Communities 2003). In other words, they do not decline facing the ongoing transformations that the relentless, ever-changing requirements of the global economy impose. But this idea – with its emphasis on education, training, environment, governance, participation, and, of course, sustainability – amounts to an oxymoronic utopia. It is a vision in which communities never seem to tire of playing competitive games with other communities somewhere else in the world in order to overcome the disruptions and inequalities of wealth and income inflicted by competitive markets. In this way "commoning" is annexed to a divisive, competitive process in order to keep the whole game going. This oxymoronic ontology of our condition seems to be the key to the reproduction of capital (De Angelis 2007b).

In all these cases, commoning is turned into something for a purpose outside the commons themselves. The purpose is not to provide alternatives to capital, but to make a particular node of capital – a region or a city – more competitive, while somehow addressing the problems of reproduction at the same time. But we must take heart in the fact that, in spite of capital's strategies to use a commons fix to the problems it creates while never really solving them, commons may well be part of a different historical development.

Conclusion

Writing in prison at a time of the consolidation of fascism in Italy, Antonio Gramsci wrote in an often quoted passage: "The old world is dying away and the new world struggles to come forth, now is the time of monsters" (Gramsci 1971). A monster is an imaginary or legendary creature that combines parts from various animal or human forms. Fascism and Nazism were one type of this monster. Stalinism was another. Today the articulation between capital, a system that recognizes no limit in its boundless accumulation, and a system that must recognize limits because it is only from within limits that it can reproduce life, love, affects, care and sustainability, may well give way to another monstrous social construction...or not.

Much will depend on us. Whether the avenue ahead is one of commons co-optation or emancipation is not a given. It will depend on political processes that have yet to be developed. Although a critical analysis of capital is necessary, it is not sufficient. The "cell" form of the social force that is responsible for establishing and reproducing the relations of production is a social force that is not just power

4. See Ian Aiden Why's essay on p. 132–140.

5. For more on the importance of community in the context of the crisis, see <http://www.communitypsychology.org>.

relations), and by this to abolish capital. we call today "the commons." By cell form I mean the general social form upon which this movement can be generated, the *sine qua non* without which no weaving of cells into a new social fabric without oppression, exploitation and injustice is possible. The commons is the cell form within which social cooperation for life-reproduction generates powers-to – the only basis by which people can multiply their powers to the nth degree through networked commons that overcome the boundaries of locality and challenge the power-over the commons established by different forms by capital.

There are at least two things that need to be taken into consideration in order to develop powers-to as an effective force. First, we should not romanticize commons. Actual commons can be distorted, oppressive or emancipatory. When we enter the system-like loops of an established commons, we immediately notice what's at odds with our best held values, beliefs and cultural mores. Too often, however, we decide to judge the commons on the basis of the values they express in relation to ours. Some activists tend to build communities based on political affinity, other on the basis of religious faith.

In these identity-based commons, a clear boundary is established around the commons that prevent it from expanding unless the outside embraces the values of the inside. "Conversion" here is the main mechanism of commons development – a mechanism, however inadequate from the perspective of the challenges of building an alternative to capital in the midst of an emergent crisis of social reproduction. I have run across radical social centers that refused to engage with the local community on the terrain of reproduction because the cultural marks of that community did not match with the principles of the activists. Thus, instead of triggering a process in which these cultural marks could be engaged on the terrain of practice, a clear identity boundary is embedded in the commons, thus ensuring its insularity and vulnerability. Identity politics here is a barrier to the development of new emancipatory identities through commoning.

Second, capital can be confronted only to the extent that commons of social reproduction, and of everyday life reproduction in particular (Federici 2011) are developed as key sources of powers-to. The social reproduction commons are those commons developed out of the needs of its participants to reproduce some basic aspects of their own lives: health, food, water, education, housing, care, energy. The development of these commons is strategically crucial in developing emancipatory and progressive alternatives. Such commons must address people's basic needs and empower them to refuse the demands of capital by offering access to alternative means of life.

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Hope from the Margins

By Gustavo Esteve

These notes offer a quick glance to ways in the south of Mexico, in which people are regenerating the society from the bottom up. It is a new kind of revolution without leaders or vanguards, which goes beyond development and globalization. It is about displacing the economy from the center of social life, reclaiming a communal way of being, encouraging radical pluralism, and advancing towards real democracy.

The Oaxaca Commune

From June to October 2006, there were no police in the city of Oaxaca (population 600,000), not even to direct traffic. The governor and his functionaries met secretly in hotels or private homes; none of them dared to show up at their offices. The Popular Assembly of the Peoples of Oaxaca (APPO) had posted 24-hour guards in all the public buildings, radio and TV stations. When the governor launched nocturnal attacks against these guards, the people responded by putting up barricades.

Some observers began speaking of the Oaxaca Commune, evoking the Paris Commune of 1871. The analogy is pertinent but exaggerated, except for the reaction these two popular insurrections elicited in the centers of power. Like the European armies that crushed the communards, the Federal Police of Mexico, backed by the army and the navy, conducted a terrible repression on November 25, 2006. They could not use the ways of the 19th century, but they inflicted a massive violation of human rights using an approach that can legitimately be described as state terrorism.

APPO remains a mystery, even for those who were part of it. It challenges conventional interpretations. A popular revolt against a tyrannical governor became a social experiment to apply the governance practices of the indigenous peoples constituting the majority of its population at the level of the state of Oaxaca (3.9 million inhabitants). Ferocious state repression interrupted the experiment but could not cancel it. Instead it took a different shape in communities and barrios as people continued affirming their political autonomy.

A communal way of being still prevails in most of the 13,000 communities of Oaxaca, in which communal obligations have priority over rights. No important decision can be taken without the explicit consent of the communal assembly, where all families are represented and know how to construct consensus. Some inequalities may be easily corrected: a person bringing many dollars after his stay in the US will spend most of them in the next fiesta, as a good *mayordomo* (someone who protects a residence and family) and in exchange earn great prestige in the community. Every family event counts on the contribution of neighbors. Mutual help is used to build many houses and cultivate and harvest crops. Justice means that a crime requires consolation and compensation to the victim, rather than punishment, and it is delivered through community wisdom, not through jails, lawyers or trials. In most communities, every *I* is still a *We*.

The notion of *comunalidad*, coined by two indigenous Oaxaca intellectuals Floriberto Díaz, Muc, and Jaime Martínez Luna, Zapotec, may help to explain the vitality and complexity of those practices and attitudes. It can be translated as commonality: the juxtaposition of commons and polity, but it is something else. *Comunalidad* defines both a collection of practices formed as creative adaptations of old traditions to resist old and new colonialisms, and a mental space, a horizon of intelligibility: how you see and experience the world as a *We*. The foundation of *comunalidad* and its core are: 1) the communal territory, in which 2) authority fulfils an organizational function beginning with 3) communal work and 4) fiestas, creating a world through 5) the vernacular language.¹

The hierarchical cargos are honorary services to the community that you begin to do very early in life. The *tequio* – unpaid work done by every family, approved in communal assemblies and organized by communal authorities – is a practice responsible for more than half of all the public works in indigenous communities. *Guelaguetza* is a complex system of reciprocity involving mutual help and material, symbolic and emotional exchanges, particularly in key moments in life, where a sense of both community ownership and personal freedom is forged as the ethical principle of *comunalidad*. *Guelaguetza* is also the normative framework weaving the interdependence between the people of the community and the region, creating new links between them and the gods and the dead, and thus recreating the communal territory. Within *guelaguetza*, giving and taking are sometimes tied, which strengthens a sense of mutual obligation between two persons or families. But reciprocity implies an attitude of open giving to others and the community, and trust and reliance in others and the community, when you are in need.

1. Ilich renovated the meaning of *vernacular* to designate “the activities of people when they are not motivated by thoughts of exchange – a word that denotes autonomous, non-market related actions through which people satisfy everyday needs – the actions that by their own true nature escape bureaucratic control, satisfying needs to which, in the very process, they are transformed into commodities.” Ilich, 1981, *Shadow Work*. Boston & London: Marion Boyars, 44 and 38.

All this and much more is *comunalidad* still alive and thriving in most indigenous peoples in spite of the violence to which it is subjected by the Church, the Spanish Crown, the Mexican State, private corporations or migration to the US. The Oaxaca Commune was an audacious social experiment to bring the same spirit to the whole state.

A political mutation: territorial defense beyond development

This way of being, with unique traits in every Oaxacan community, recently experienced a political mutation. As in many other parts in Latin America, the struggle for land assumed the form of territorial defense.³¹ People are weaving their efforts, knowledge and resistance in the defense of their resources and territory, opposing "development projects" and reclaiming their own notion of the good life.

Some people still struggle to get access to the goods and services defining the idea of life that shaped the contemporary notion of development. They ceded to governments, corporations and the media a traditional function of the people and the civil society: defining what it is to live well. Conventional claims (more roads, schools, health care, etc.) are still present, but they are not the only ones. There are now proliferating as different definitions of the good life – often expressed as *la vida buena* – but also as *la vida digna* (the good/dignified life).³² These are not only different, but also in tension with each other. They are not only different, but also in tension with each other.

In many ways the people are expressing a sovereign practice of the collective will, which openly challenges faculties of the governments. The political form of this claim is usually presented as autonomy. It has been actualized and reformulated by the indigenous peoples, especially after the Zapatista uprising in 1994, but increasingly includes many other social groups. It has already generated de facto institutional arrangements: an increasing number of people effectively control their territory and govern themselves in their own way (Esteva 2010). Even though indigenous peoples may be less than 10 percent of the population in many areas, they may represent more than 85 percent of the rural territory – as in Oaxaca – and also occupy popular barrios in large cities.

The struggle for autonomy

This struggle permeates people's initiatives and movements all over Latin America. Its most solid expression is probably what the Zapatistas created in the 150,000 hectares they have controlled since 1994 in Chiapas, a state bordering Guatemala.

31. See also the articles in this book by Dick Löhr (pp. 410–413), César Padilla (pp. 157–160) and Gerardo Rivas (pp. 161–164).

32. See also the conversation between Gustavo Soto and Silke Heifrich on the *Buen Vivir* concept on pp. 277–281.

33. See Gerhard Dinger's essay on the Belo Monte mining operation on pp. 174–176.

Until 1993 neoliberal globalization appeared as an ineluctable reality. Politicians and scholars offered mere variants of what seemed to be the general destiny. There were no alternatives. The Zapatistas created them. What they are doing in Chiapas is a social experiment without clear precedent. In spite of severe restrictions, after seventeen years of rebelliously rejecting any kind of public funds, under a porous siege of 30,000 troops and exposed to continual paramilitary attacks, their radical innovations clearly anticipate one of the shapes of the post-capitalist world (Esteva 1998, 2005).

Zapatista families are producing their own life in their own way. They combine traditional practices with contemporary tools to cultivate their basic staples, coffee and other products, which they sell through fair or solidarity trade. Their children attend free "schools" based on community conceptions and common themes, like their own story. They use traditional methods for healing, complemented with their own modern clinics, which give them access to contemporary remedies and practices. They build their own houses and public buildings with local materials and traditions, enriched with contributions from other parts of the world. Self-government, similar to the Oaxaca tradition in communities and municipalities, operates also at the level of regions through *Junta de Buen Gobierno* (Boards of Good Government): ordinary men and women, some of them very young, occupy temporarily the highest rank of authority for a group of municipalities and communities.

In Zapatista territory, land is not an artificial commodity. Territory is a space of responsibility. Occupation is not equivalent to property or tenure. A cosmocentric attitude before nature prevents the possibility of owning it. Within communal territory, land is allocated to the commoners without granting private property, but respecting stable family rights.

People don't delegate their power to representatives. The authorities command by obeying and are not professional politicians or bureaucrats, but ordinary men and women who temporarily perform functions of government, with specific mandates and responsibilities. They can be substituted at any moment. The distance between those governing and those governed vanishes. Justice is not the technical enforcement of formal rules, entrusted to professionals, but the practice of a non-written normative system based on the vitality of changing customs, and direct conversation among people.

The Zapatista struggle for autonomy combines the freedom for self-determination with a serious attempt to conceive ways of political and cultural communion with other peoples, through an intercultural dialogue. This attitude of radical pluralism, looking for the harmonious coexistence of different peoples and cultures, requires a kind of juridical and political pluralism that does not fit well within the design of the nation-state and representative democracy.

Radical democracy, Zapatista style, means "democracy in its essential form: democracy at its root. [It] does not abolish power, it says that the people shall have it, that the power will be their freedom. Radical democracy envisions the people gathered in the public space, with neither the great paternal Leviathan nor the great maternal society standing over them, but only the empty sky – the people making

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A New German Raw Materials Strategy: A Modern "Enclosure Of The Commons"?

By Lili Fuhr

Lithium and cobalt for producing automobile batteries; niobium, chromium and palladium for desalination of sea water; ruthenium and selenium for photovoltaics; rare earths¹ for cellphones and laptops – European industry relies on minerals, most of them from non-EU countries. In the past and despite the efforts to foresee the needs of the future, long-term security of supply of so-called "critical" raw materials was not considered an issue just a few years ago, but the topic has now been thrust to the top of the political agenda. For this reason, the German federal government passed a raw materials strategy in October 2010. The European Commission presented a new version of its 2008 Raw Materials Initiative in February 2011 as well. Both strategies are intended to help ensure a reliable supply of important minerals for European and German industry via trade and investment policy, especially using instruments of foreign trade policy. Like all natural resources, these raw materials are first of all common resources. For this reason, the classical question of the commons arises here, too: How do we handle them so that whatever must be shared can be used in a meaningful and fair way for all without harming others? How are we to understand the new German raw materials strategy against the background of this question?

Only very recently has the debate around the availability of mineral resources come to a head. In the absence of growing interest in communication technologies and renewable energies, many of these raw materials would simply remain in the ground. In addition, their increased exploitation not only raises the question of distribution of these minerals, but also systematically results in additional conflicts around the use of other common resources. Finally, the exploitation of rare minerals interferes considerably with land use and soil structures, water regimes and forestry. As a rule, however, common use of these resources is in the interest of the local population. The increasing exploitation of mineral resources often makes it impossible to use them in a commons-based way. The negative impacts

1 | Editors' note: Rare Earths is an abbreviated form of the correct term *rare earth metals*. The rare earths include cerium, yttrium, neodymium and many others. Although they are fairly abundant in the Earth's crust, they are dispersed widely or mixed with other metals. In other words, larger deposits are indeed rare. That is why a large part of industrial production of rare earth metals occurs by means of chemical processing during extraction of other metals present in higher concentrations – with the corresponding consequences for the environment.

Despite their own commitments to attaining coherence in development, (foreign) trade and investment policies, these policies thwart the German federal government's and the EU's efforts at poverty eradication or stabilization of the climate – and options for self-determined, commons-based development paths dwindle.

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Using “Protected Natural Areas” to Appropriates the Commons

by Ana de Ita

Even as worldwide pressures mount to protect sites with high biological diversity, indigenous peoples and local communities are redoubling their struggles of resistance against a “solution” that claims to protect ecosystems, the establishment of protected natural areas (PNAs). The policy of establishing PNAs, which seeks to maintain the best conserved redoubts of the planet, is often at odds with the rights of native peoples, since many of those redoubts exist in the first place only because indigenous communities have conserved, recreated, and maintained them.

In Mexico, half the national territory, some 106 million hectares, is the property of *ejidos* and *comunidades agrarias*,¹ home to peasants and indigenous peoples. Although the discourse of protecting nature is familiar to the ways of thinking of such communities, PNAs have become a threat to their territories and to their autonomy or self-determination, which is their main demand.

PNA are established by the decree of any level of government and are considered to be of public utility, which according to Article 27(VI) of the Constitution means that lands can be expropriated. In PNAs the rights of persons who possess the territory are legally inferior to the decrees regulating the area management programs, or environmental land use regimes. In addition, the possessors whose lives depend on these territories, which they use and tend, do not have priority over any other person or social group involved; they are merely considered one more stakeholder. Nor do the possessors have any right to veto management rules, nor to have the guaranteed right to give or withhold their free, prior, and informed consent, even if they are indigenous peoples.

Moreover, PNAs do not even guarantee that conservation objectives will prevail over moneyed interests, for highly contaminating activities such as oil operations and mining are not prohibited. Nor is the appropriation of water or any other

1 | *Ejido* denotes a common or collective possession of land or forest that includes private property. During colonialism, rights and obligations with respect to land and forests were regulated by the Spanish Crown. The Mexican Revolution (1910–1917) recognized the importance of *ejido* (Article 27). During the government of President Lázaro Cárdenas (1934–1940), the *ejido* system was reformed, and new laws were enacted, including the right of indefinite, unlimited use. A *comunidad agraria* is another form of collective ownership over land and forests. It has the same essential features of the traditional *ejido* system but uses another institutional framework.

resource by any economic actor prohibited; all that is required is that the commercial uses "not cause degradation to the ecological balance."

In the PNAs government administrators, international conservation organizations such as Conservation International, World Wildlife Fund, and The Nature Conservancy, and even private companies such as Coca Cola, breweries, hotels, and many others wrest control over decisions on the territory and resource use from the assembly of *ejidatarios* and *comuneros*, making it ever more difficult for the government to establish them.

Up until the year 2010, the National Commission on Protected Natural Areas (Conanp: Comisión Nacional de Áreas Naturales Protegidas) administered 174 PNAs in Mexico covering 25.4 million hectares in all. According to a World Bank study, 95 percent of the PNAs are situated in areas of common use, both *ejidos* and *comunidades agrarias*, and at least 71 of them are on the territories of 36 indigenous peoples. Of the more than 152 priority terrestrial areas for conservation, covering some 51 million hectares, at least 60 overlap with indigenous territories.

In the late 1980s, the government, upon announcing plans to establish PNAs, were confronted by the *ejidos* and *comunidades* possessing the territories that were proposed as "voluntary" conservation areas. There are now 177 voluntary areas in 15 of Mexico's 31 states, encompassing approximately 208,000 hectares, and at least nine indigenous peoples participate in them. Most are located in Oaxaca, with 79 voluntary certification areas.

Yet in 2008, the General Law on Ecological Balance and Environmental Protection introduced a change, making voluntary conservation areas one more category of protected natural area. The lands were declared to be under federal jurisdiction and of public utility – and then new conditions for their management imposed. This included promoting the entry of newcomers to the lands and giving them decision-making authority over resources used in common – which the communities had specifically sought to prohibit.

The 2008 law has sparked major conflicts in the territories between the communities and the Conanp. Each has its own model of conservation and structure of government. One seeks conservation from within the communities with the regulations decided by agreement of the assembly, based on consensus-building. The other seeks conservation from outside, with government decisions imposed on the territories. When the communities have sought to terminate their commitment to "voluntary conservation," they have found that it is in fact mandatory, and that they must either wait for the commitment period to run its course or else pay for a technical study to justify their refusal to do so.

In 2010, just before the Conference of Parties in Nagoya, on the Biodiversity Convention, and in Cancun, on climate change, several indigenous peoples – Kuna, Kichwa Kayampi, Qeqchi de Livingston, Bene Gulash, Ru Savi – began to circulate what was called the Declaration of Heredia. It demanded that no more protected natural areas be established on indigenous territories, that the ones declared earlier be canceled, and that those lands and territories be returned to the communities and peoples from whom they were taken. The Declaration stated: "No government, no environmental policy or legislation can be imposed above our territorial rights,

which are guaranteed in Convention 169 of the International Labor Organization and the United Nations Declaration on the Rights of Indigenous Peoples."

The establishment of PNAs has become a modern instrument of colonization that regards indigenous and peasant territories as empty "no-man's land" that the state can manage as it sees fit.

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Intellectual Property Rights and Free Trade Agreements: A Never-Ending Story

By Beatriz Busaniche

Imagine that a group of highly concentrated transnational corporations in the knowledge industries such as pharmaceuticals, high-tech, and entertainment pack so much lobbying clout that they can convince the governments of the industrialized world to bully developing countries to “harmonize” their copyright, patent and trademarks laws into a global intellectual property regime. That is what happened in the 1990s when the bloc made up of the United States, Europe and Japan was able to incorporate intellectual property matters in the trade agenda. The signing of the Agreement on Trade Related Aspects of Intellectual Property, more commonly known as TRIPS, created a unified global intellectual property regime with minimum standards and established a dispute settlement system to ensure its application and compliance.

At first blush it is surprising that the developing countries would agree to treat intellectual property in the framework of the World Trade Organization (WTO) and not in the customary body for such matters, the World Intellectual Property Organization (WIPO). The larger, industrialized countries had their reasons for wanting this shift – namely that the WTO has a dispute settlement mechanism that makes it possible to apply punitive measures against those countries that might violate the rules.

In 2001 it appeared that developing countries might make some progress in trade policies that affect their economic development. In the “Doha Round” of negotiations hosted by the World Trade Organization, developing countries won the Doha Declaration on the TRIPS Agreement and Public Health, which urges governments to take advantage of the flexible terms of TRIPS to improve their citizens’ access to affordable medicines.

In response to the Doha Round, developed countries began to promote two types of treaties to advance their commercial interests: investment protection agreements and free trade agreements. Both seek to expand the scope of coverage and the duration of intellectual property monopolies – a legal approach that obviously benefits large film studios, publishers, record labels and information vendors. The two types of agreements also seek to add new legal provisions that reduce the flexibility of TRIPS provisions, to the detriment of developing countries.

The European Union and the United States are especially active when it comes to promoting the signing of free trade agreements. As of 2011, the United States had signed free trade agreements (FTAs) with 17 countries, while the European Union has FTAs with Chile, Mexico, and South Korea, among others, and is negotiating more with India, Asian bloc nations and the Mercosur (Mercado Común del Sur, or Common Market of the South). The treaties contain chapters expanding intellectual property provisions often known as “TRIPS plus” clauses.

The free trade agreement signed in 2011 by the European Union and South Korea contains numerous examples of such clauses, among them:

- Extending the duration of medicinal patents for as many as five years beyond the 20 years already provided for in the TRIPS. (The rationale to compensate patent holders for the time needed to produce test data for marketing the drug in a given area.)
- Exclusive protection for the “test data” on drugs and agrotoxics, a new form of protection that directly unpeels generic drugs from entering the market.¹ This legal provision did not exist in the TRIPS and was deliberately excluded in that negotiation, but was included in a US agreement with Central America and the Dominican Republic. The provision reduces the flexible terms of the TRIPS that otherwise make it possible for the countries to recognize test data to approve a generic drug.²
- Adding new trade obligations such as protecting Digital Rights Management (DRM) that use technology to regulate the number of times a work in digital format may be used, and the conditions of use. Such restrictive technical measures can, for example, track usage to determine whether a work has been copied, loaned, read one or more times, shared, and even

1 | See also the essay by Christine Ladd, Christian Wagner, Ahle, and Tienemann on pp. 422–427.

2 | According to the European Generic Medicines Association, a generic is a medicine that contains the same active principle as a brand name product and acts identically on patients respecting the regulatory controls of quality, safety, and efficacy. Generics can be produced once the patent on the brand name drug has expired, making possible competition and slashing the market costs of medicinal products.

3 | Article 39(3) of TRIPS makes reference to all information that the health authorities of a country require to approve the marketing of a given pharmaceutical or chemical product in the national territory. The text only requires protection against any use in unfair commercial use of the test data the origination of which entails a considerable effort. The article adds that the members will protect those data from any disclosure, except when necessary to protect the public or urgent measures are adopted that guarantee protection of the data against unfair use. One example of a good practice in the area is Law 24,766 in force in Argentina, which takes full advantage of the flexibilities of the TRIPS in terms of allowing the sale of generic medicines with an administrative procedure to determine the similarity of the active ingredient of the drug, and without requiring the submission of new test data (which would considerably delay the time it would take for a generic to make it to market).

4 | Regulations of this sort, known as “anti-circumvention measures,” were established in the European Union in 2002. An emblematic regulation of the implementation of such measures is the Digital Millennium Copyright Act of the United States approved in 1998: <http://www.copyright.gov/legislation/dmca.pdf>.

printed, in the case of texts. In some legal systems, such as the Digital Millennium Copyright Act of the United States⁶ evading these technical measures is a crime, even when done to exercise a right, such as access to works in the public domain, or fair use.

- In addition, in the last few years FTAs have included new clauses that impose “secondary liability” on Internet service providers, search engines and other types of services. These FTAs impose joint liability on these services for the actions of Internet users and requires services to look into, monitor, and swiftly act in response to a report of a copyright violation (without specifying what type of report triggers the duty and without guaranteeing the involvement of a judge). Such clauses override domestic judicial systems, constitutional due process guarantees and the presumption of innocence, and constitute a direct threat to freedom of expression on the Internet.⁷

- FTAs have been used as vehicles to reduce the flexibility that countries have in their right to regulate plant and seed varieties as they see fit (under sui generis legal regimes)⁸ and to allow farmers to re-use seeds. The FTAs require that each country ratify a 1991 Act and its amendments that expand the coverage of the varieties to be protected, expand the rights of the breeder and limit the uses of derivative varieties. These provisions threaten native seeds that peasant communities have been exchanging and improving over thousands of years. It means that in the future they’re going to have to stop conserving and redistributing their seeds and buy seed from the large corporations in each crop cycle.

How FTAs are hostile to commons

The commons starts from the idea that knowledge (and the right to share and reproduce knowledge) is a basic human right that integrates three specific factors – common pool resources, a community of users organized around them and that community’s consensus based rules and standards. It is clear that free trade agreements are hostile to this structure of governance and resource management. By imposing private intellectual property rights on collective knowledge and resources such as seeds and plant varieties, FTAs are in effect modern tools for enclosing the commons.

6. The Digital Millennium Copyright Act of 1998, available at <http://www.copyright.com/copyright/copyright.htm>.
7. See the report of the Special Representative of the Secretary-General on the issue of Human Rights and the Internet, David Kaye, “Human Rights and the Internet: Norms on the Responsibilities of Corporate and Other Actors and Remedies and Mechanisms”, 2005, available at <http://www.unhcr.org/refugees/pdf/08b66621.pdf>.
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10. See also essays by Peter Linebaugh on pp. 114–124 and Hartmut Zückert on pp. 125–131.

Incursion on the public domain and the knowledge commons

The entire architecture of intellectual property law, which has expanded and become more restrictive since the late 1970s, has been furthering the process of enclosing the commons. This process has consisted of extending the terms of monopolies over knowledge, creative works, seeds, and medicines, ignoring the value of the public domain, and extending intellectual property rights to areas of life never before contemplated in copyright and patent law. If fifty years ago someone had said that a plant, a gene, a mathematical algorithm could be the private property of some person, we would have thought such ideas insane. Nonetheless, in 1980 the first patent was given on a microorganism⁹ – the same year that a patent was granted to a mathematical algorithm.¹⁰ Around this same time, the race to patent genes, plants, and seeds took off.

Monopolies over such living things have been consolidated by means of the dispute settlement systems used in trade disagreements. Just as in the WTO framework one country may take another before a panel to then impose retaliatory measures if the minimum standards are not applied, so in the case of investment protection agreements, companies themselves may take a country before the World Bank’s dispute tribunal, the International Centre for Settlement of Investment Disputes (ICSID), if they feel that their pursuit of profit has been impaired. Thus Philip Morris once brought an ICSID complaint against Uruguay for its anti-smoking public health policy, claiming that Uruguay was indirectly expropriating without compensation an investment of Swiss origin protected by the agreement.¹¹

Who sets the rules?

The rules and norms that communities adopt to manage their collective resources are essential for preserving, promoting and defending them. The present-day legal architecture and regulation of intellectual property in the FTAs and the IPAs do not reflect a consensus of the interests of communities directly involved. In essence, most negotiations of free trade and investment protection agreements occur behind closed doors, with pre-assembled negotiating documents, and with zero public access to the proceedings or policy documents.

Moreover, because negotiations also involve such issues as customs duties reductions, national procurement operations and investments, developing countries often regard intellectual property as a secondary concern to be used as a bargaining chip to obtain more favorable results on larger trade priorities. It is

9. The first precedent is *Diamond v Chakrabarty* (1980), available at <http://supreme.justia.com/courts/all/us/441.html>.

10. The first precedent is *Diamond v Diehr* (1981), available at <http://supreme.justia.com/us/450/175/case.html>. See also the history of software patents at <http://www.btlaw.com/software-patent/history.html>.

11. For more information see the dossier, “Demanda Philip Morris a Uruguay en el Ciadi,” by Redes Amigos de la Tierra Uruguay (Friends of the Earth Uruguay), available at <http://www.redes.org.uy/wp-content/uploads/2010/04/Dossier-Philip-Morris-Uruguay.pdf>.

common for the countries that rely on the export of a specific commodity (such as copper in Chile and soybeans in Argentina) to make concessions in intellectual property policy in order to assure that their key exports have access to international markets.

FTAs have inherited from the GATT trade negotiations and the WTO the logic that nothing in the negotiation is closed until everything is closed. As a result, the negotiators close agreements step by step until they have a final document that the countries sign, with no possibility of new discussions. It is only then that the agreements go before the legislatures of the respective signatory countries, which are no longer able to introduce any change or amendment; they may only cast a "yes" or "no" vote on the texts negotiated as a complete package that cannot be reopened lest the whole negotiation break down. In other words, the regulations are left in the hands of the negotiators operating in secret to advance private commercial interests. Even the legislators of signatory countries have very little ability to influence the treaties.

The role of communities

It is clear that this system for establishing policies for intellectual property rights fails to allow communities to protect and preserve their commons. The entire process set up by the TRIPS and strengthened by the FTAs and investment agreements, largely prevents nation-states from defending collective non-market interests without suffering the penalties imposed by trade system's dispute settlement mechanisms. One cannot expect the governments to defend and promote the commons if these same governments are promoting the signing of the trade agreements. Meanwhile, numerous communities and various commons have been dismantled or damaged by FTAs, and the affected commoners have little if any ability to affect trade negotiations.¹⁴ This globalized legal framework is equivalent to expropriating the capacity to manage the commons. It destroys community spaces, privatizes the public domain and renders illegal many customary practices of communities, such as exchanging seeds and sharing culture.

A never-ending story

The outlook for the future of the commons in the context of trade negotiations could not be more discouraging. The dynamics described above can be seen in ongoing inter-regional negotiations between Mercosur and the European Union, and in bilateral treaties such as the one being negotiated between India and the EU, the one signed by South Korea and the EU in 2011 and in numerous bilateral treaties signed around the world. Despite the Doha Round of the WTO, which seemed to open the door to greater flexibility in protecting the commons, it is clear

that the strategy of enclosure based on a TRIPS-plus standard, is moving forward step by step. If we are going to defend the commons from new enclosures and recover that which has already been expropriated from communities, we clearly must recover the concept of the commons as a strategic concern and begin the perhaps utopian yet essential task of removing the commons from the global trade agenda.

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14. For example, in 2011 the Fundación Via Libre of Argentina, the leading advocate for free software, wrote an official letter to the Ministry of Foreign Affairs of Argentina asking for information on the negotiations Mercosur maintains with the European Union for the signing of an FTA. The Argentine government did not respond.

Global Enclosures in the Service of Empire

By David Bollier

In September 2010, a group of NATO brass, security analysts and other policy elites held a conference called "Protecting the Global Commons." Attendees were described as "senior representatives from the EU institutions and NATO, with national government officials, industry, the international and specialized media, think tanks, academia and NGOs" – surely one of the oddest group of "commoners" ever assembled.

The event, hosted by a Brussels-based think tank called Security & Defence Agenda, had its own ideas about what the commons is. Let's just say it doesn't regard the commons as a self-organized system designed by commoners themselves to serve their own needs. No. To NATO decision makers, the "global commons" consists of those empty spaces and resources that lie beyond the direct and exclusive control of nation-states. In other words, NATO sees these spaces as no-man's land without governance. To NATO, the key "global commons" are outer space, the oceans and the Internet. The problems posed by these "commons," conference organizers suggest, is that they must somehow be dominated by NATO countries lest hostile countries, rogue states and pirates interfere with US and European commercial and military activities. Hence the need for NATO's military supervision.

A bit of accuracy is in order: Outer space, the oceans and the Internet are *common-pool resources*. They don't belong to anybody individually nor to any state individually. But they are not *commons*. Commons require the active participation of the people in formulating and enforcing the rules that govern them. Or "the consent of the governed," as the US Declaration of Independence puts it. That's not really a NATO priority. Instead, as the conference program put it:

What are the political, policy, and operational challenges faced by NATO in the Global Commons? Is the Alliance adequately prepared to execute its responsibilities in a world where the space, maritime, and cyber domains are increasingly vital to the interests of member states and to the day to day peacetime and wartime operations of the Alliance? What capabilities and responsibilities will the Alliance need to develop to sustain its relevance in a world where the global commons are increasingly important?

In a sense, NATO gets it right: space, the oceans and the Internet must be available to all. They are, in its words, the "vital connective tissue in a globalized world." However, the question that didn't seem to get asked at the conference, at least according to its stated agenda and available documentation, is: How shall ordinary citizens and their representatives participate in these deliberations and make sure that governance will serve their interests? That, after all, is what a democratic society is all about.

NATO misconstrues the meaning of the term "commons" by casting it as an ungoverned free-for-all – precisely the error that biologist Garrett Hardin made in his famous 1968 essay on the "tragedy of the commons." Hardin's error poisoned the meaning of the commons for at least a generation, something that NATO may in fact be eager to perpetuate; defining oceans, space and the Internet as "commons" in Hardin's sense of the term would give it license for dominating these resources. Geopolitical supremacy is the goal. As the program notes put it, "Oceans today are as much a chess board for strategists as a global common. What are the key dynamics of today's maritime domain? What are those of tomorrow? What are the implications for the Alliance?"

NATO's misuse of "commons" is starting to get some traction. In 2011, MIT political scientist Sameer Lalwani and Joshua Shirkinnon held a Washington policy briefing at the New America Foundation that proposed that the US "pare back its forward based naval presence in many regions while retaining 'command of the commons.' It can accomplish this by relying more on regional powers to help in securing the freedom of the seas while maintaining sufficient over-the-horizon naval power to serve as the security guarantor of last resort."

Has no one at the Pentagon, NATO or defense think-tanks read Elinor Ostrom's work? Please, NATO. Simply refrain from using the word "commons." Alternatively, why not begin to imagine new types of global commons institutions that could transcend the parochial, self-serving interests of national governments and their concern for commercial interests over ecological or civil interests? Why not build some creative new transnational governance structures that could truly represent the commoners?

This will not be the last time that commercial or governmental interests attempt to co-opt the term "commons." Which is all the more reason why we need to point out Hardin's error yet again, insist upon the real meaning of the commons, and get institutions like NATO to talk to some real, live commoners every once in a while.

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...the whole of the world is to be made common to man, and what men live by."

Leo Tolstoy, *What Men Live By* (1881)

PART THREE

COMMONING - A SOCIAL INNOVATION FOR OUR TIMES

School of Commoning

By George Pór

"How would we know when we are commoning?" a young woman asked me at Contact Summit 2011, a major unconference running concurrently with the Occupy Wall Street protests in New York, October 2011. (An "unconference" is a gathering based on participant generated content.)

When I announced the invitation to my session on commoning, I introduced it by quoting the motto of our School, "Education for Commons Culture & Social Renewal." I explained, "Creating a commons culture is re-inventing all our social institutions for serving the whole – not the few as they do today. Let's find out how commoning can help us achieve that."

Members' driving questions are the key initial resource of any ad hoc learning commons. In such a commons, "we know we are commoning" when we create and maintain an issues list, a collection of burning questions and engage in action-oriented, collaborative inquiries to address them. Therefore, we started by exploring the questions that participants had about three stages that characterize commoning:

1. The ensemble of practices used by people in the course of managing shared resources and reclaiming the commons. In its simplest form, commoning is creating and maintaining something collectively.
2. Moving from the Me to the We, where people become capable of thinking, feeling and acting as co-creative collective entities, without surrendering their individual autonomy.
3. Recognizing the inherent connectedness of humanity as a whole, and keeping our individual and collective "center of gravity" one with it.

The School of Commoning is a commons-based social enterprise established in London under UK law, as a Community Interest Company in May 2011. Our mission is to enhance individual and collective competences in the creation, protection and governance of commons of all types – natural, cultural and intellectual.

We are running workshops, seminars, retreats, online courses, and creating educational materials in print, video, and a Commoning Game. The School plans to provide training programs for commons facilitators and customized curricula for institutions of higher education.

The School of Commoning maintains a wiki-based Knowledge Garden, one of the largest repositories of commons-related non-academic documents of global relevance. Special sections are dedicated to the commons movement and the issues of a transition to a commons-based society as well as a questions-driven introductory module for those who are new to the commons. This is a Creative Commons-licensed space¹ where users can browse, add to, quote, reuse and remix resources. We also host a regular Commoning Cafe in London, a networking event that, for many, serves as a first point of entry to the world of commons.

Our educational activities have included an online/onsite workshop on "Reclaiming the Commons as a Social Theory of Collective Action" that we facilitated at the Occupy Wall Street Forum on the Commons in New York. Along with the Christian Council for Monetary Justice we organized an intense "12 days, 12 seminars" program led by James Quilligan, who is also an advisor to our School, on various issues involving the shift towards a commons-based economy. The kick-off seminar was hosted, where else – in the House of Commons.

Our series, the "Commons in Our Life," is aimed at fostering the emergence of new commons, in various areas of social practice. Each event will be dedicated to understanding and supporting the commons in one particular domain of social regeneration that we care about, e.g., health, land use and urbanism, finance, etc. Our Commons Advisory Services work with an international network of leading thinkers and practitioners to provide commons design and consulting services to organizations in civil society, and the public and private sectors.

Commoning is also partnering. Our partners include CommunityIntelligence, Global Commons Trust, Kosmos Journal, Notre Dame University, the P4P Foundation and the United Nations Institute for Training and Research. If our work inspires your group and you want to explore a collaborative relationship with the School of Commoning, let us know.

References

Video presentation, "Voices from the Commons" <http://www.youtube.com/watch?v=PwosKacwmvE>

Website <http://www.schoolofcommoning.com>

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Practicing Commons in Community Gardens: Urban Gardening as a Corrective for *Homo Economicus*

by Christa Mulier

"In these times of ever more blatant marketing of public space, the aspiration to plant potatoes precisely there – and without restricting entry – is nothing less than *subversion*," writes Sabine Rohlf in her book review of *Urban Gardening*.¹ Indeed, we can observe the return of gardens to the city everywhere and see it as an expression of a changing relationship between the public and the private. And it is not only this dominant differentiation in modern society that is increasingly becoming blurred, the differences between nature and society as well as that between city and countryside are fading as well, at least from the perspective of urban community gardeners.

In the 1960s, as the economy boomed, people in West Germany had given up their urban vegetable gardens, not least for reasons of social status; many wished to demonstrate – for example – that they could purchase food and no longer had to grow and preserve it themselves. Today, in contrast, the "Generation Garden" has planted its feet firmly in vegetable patches in the midst of hip urban neighborhoods: the "young farmers of Berlin-Kreuzberg" are creating a furor, the German Federal Cultural Foundation stages the festival "Über Lebenskunst" (a pun meaning both "On the art of living" and – spelled *Überlebenskunst* – "The art of survival") and people need not be ashamed of showing their fingernails black from gardening, in public.

What we observe here is a shift in the symbolism and status of post-materialistic values and lifestyles. Do-it-yourself and grow-it-yourself also means finding one's own expression in the products of one's labor. It means setting oneself apart from a life of consuming objects of industrial production. Seeking individual expression is also a quest for new forms and places of community. If the heated general stores and craftsmen's workshops were the places where Germany's social life unfolded in the postwar years, today's urban community gardens and open workshops seem to be developing into hothouses of social solidarity for a post-fossil-fuel urban society.

In recent years, people of the most varied milieus have been joining forces and planting organic gardens in major European cities. They keep bees, reproduce seeds, make natural cosmetics, use plants to dye fabrics, organize open-air meals

1 | See essay by Mike Linksvayer on pp. 309–304

1 | *Berliner Zeitung*, April 5, 2011

and take over and manage public parks. With hands-on neighborhood support, transforming derelict land and garbage-strewn parking decks into places where people can meet and engage in common activities.

The new gardening movement is young, colorful and socially heterogeneous. In Berlin, “indigenous” city dwellers work side-by-side with long-time Turkish residents to grow vegetables in neighborhood gardens and community gardens, pick your-own gardens and farmers’ gardens are forming networks with one another. The intercultural gardening movement is continuing to expand in striking ways, as seen on the online platform Mundraub.org, which uses Web 2.0 technology to tag the locations of fruit trees whose apples and other fruits can be picked for free (Müller 2011). Such novel blending of digital and analog worlds is creating new intermediate worlds that combine open source practices with subsistence-oriented practices of everyday life.²

Urban gardens as knowledge commons

Open source is the central guiding principle in all community gardens, the participation and involvement of the neighborhood are essential principles. The fact that people own the land – by encouraging people to participate – combine a large amount of knowledge in productive ways. Since there are usually no agricultural professionals among the gardeners, everyone depends on whatever knowledge is available – and everyone is open to learning. They follow the maxim that everybody benefits from sharing knowledge, after all they can learn from each other, relearn skills they had lost and contribute to bringing about something new. Communal gardening confronts the limited means of urban farmers – whether in soil, materials, tools or access to knowledge – and transforms them into an economic system of plenty through collective ingenuity, giving and reciprocity.³

In urban gardens, both opportunities and the necessity for exchange arise time and again. A vibrant atmosphere emerges where the most varied talents meet. In workshops, for example, people can learn to build their own freight bicycles, window farming⁴ or greening roofs, they can learn to grow plants on balconies and the walls of buildings, and use plastic water bottles for constant watering of topsoil. There is always a need for ingenuity and productivity, which often come about only when knowledge is passed along, which in turn releases additional knowledge.

Thus, the creative process in a garden never reaches an end. The garden itself is a workshop where things are reinterpreted creatively and placed in new relationships. One thing leads to another. It is not only the inspiring presence of the various plants that provides for a wealth of ideas, but also the ongoing

2 | Mundraub is described in Katharina Fromm’s essay on pp. 223–226.

3 | For more, read the conversation between Brian Davey, Wolfgang Hoeschele, Roberto Verzaola and Silke Helfrich on pp. 102–110.

4 | Window farming is vertical gardening on a windowsill. Plants are grown in hanging plastic bottles, which also provide greenery for the windows.

opportunities to engage, which could be motivated by reciprocity, gift and (Müller 2011).

Thus is how a real community that uses a garden emerges over time. One of the most important ingredients for success is that the place is not predefined or overly restricted by rules. Instead, the atmosphere of untidiness and openness makes it apparent that cooperation and creative ideas are desired and necessary.

A new policy for (public) space

When the neighborhood people of Berlin-Neukölln tend their gardens on the site of the former Berlin Tempelhof airport in plant containers they crafted themselves, bringing together people of many different backgrounds and generations and supported by the Allmende-Kontor, a common gardening organization, this is first of all an unusual use of public space.⁵ The garden consists of raised beds in the most varied styles on 5,000 square meters. Plants grow in discarded bed frames, baby buggies, old zinc tubs and wooden containers assembled by the gardeners themselves.

But more than an unusual public space, the Allmende-Kontor garden underscores an important political dimension of urban gardening. The commons-oriented practices enable a different perspective on the city. They both require communities and at the same time create communities. People come together here but not under the banner of major events, advertising or the obligation to consume. Instead, their self-organized, decentralized practices in the public realm implicitly express a shared aspiration of a green city for all. Yet no grand new societal utopia – “the society of the future” – is being promoted. Instead, simple social interactions slowly transform a concrete space in the here and now, building an alternative to the dominant order based on market fundamentalism (Werner 2011).

In other words, the policy preference for the small-scale as a rediscovery of one’s immediate environment is by no means based on a narrowed perspective. On the contrary, the focus is precisely on the overuse, colonization and destruction of the global commons, and for this reason, the local commons is managed as a place where one can raise awareness about a new concept of publicness⁶ while simultaneously demonstrating that there are indeed alternatives – common usage in place of private property, local quality of life instead of remote-controlled consumption, as it were, and cooperation rather than individual isolation.

Managing the “internal commons”

The new focus on the commons in urban community gardens is not only a political defense of public space for its use toward the common good. At the same time, it is also a reclaiming of people’s internal consciousness and a rejection of the ascriptions of homo economicus, an image of humanity that reduces us to

5 | <http://www.allmende-kontor.de>

6 | See also Brigitte Kratwald’s essay on social welfare in light of the commons, on pp. 55–60.

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Christa Müller (Germany) is a sociologist and author. For many years she has been committed to research on rural and urban subsistence. She is executive partner of the joint foundation "anstiftung d'ertomis" in Munich. Her most recent book (in German) is Urban Gardening: About the Return of Gardens into the City. She blogs at

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Mundraub.org: Sharing Our Common Fruit

By Katharina Prosch

In a rural area in the former East Germany, late summer 2009. Shimmering heat, the intense odor of fermenting fruits is in the air. A tree covered with hundreds of juicy pears, and a foot-high layer of rotting fruit on the ground. A stone's throw away – plums, musabelles, elder bushes and every now and then an apple tree along the path, maybe of an old, rare variety. An abundance of fresh fruit – in normal seasons, much more than needed to feed birds, insects and other animals – forgotten, abandoned, unused.

Is this our common fruit? Are we invited to harvest it? Today, at least in Germany, unowned fruit trees formally do not exist. Orchards situated outside human settlements are mostly in private hands, even if there is no fence around them. The mile-long fruit tree alleys characteristic of many regions, particularly in the former East Germany, are state- or region-owned. Fruit trees in parks belong to the cities. Harvesting apples without asking the owner amounts to stealing.

The clash between abundant but forgotten fruit in the public space – and the lack of information about property rights – calls for action. Whom to ask if we see an apparently forgotten fruit tree, full to bursting? The website www.mundraub.org¹ invites people to tag forgotten fruit trees on an interactive map and to locate existing trees that can be harvested. The website sets forth basic rules to respect private property and prevent damage to the trees and the natural environment, and calls for fair play in general.

In the first two years since the website launch in 2009, more than half a million people have accessed the site, and several hundred are actively contributing to the fruit tree map. The map currently lists about 3,000 "find spots," which roughly correspond to 20,000–30,000 trees. So is the rediscovery of common fruit based on the mundraub map another confirmation of Elinor Ostrom's Nobel Prize-winning theories about community self management of common goods?

Some prophets of doom warned that the mundraub website would incite swarms of reckless, hungry urban dwellers to savage private fruit plantations in the countryside and drive local farmers to ruin. However, there is no evidence that tree

1 | In German, "Mundraub" – literally "mouth robbers" – refers to the theft of something edible in a strict legal sense, but the term has friendly joking connotations, as implied by "fishing" or "pilfering" in English.

damage or stolen fruit have increased since the launch of the website. Users seem to intuitively adopt a responsible attitude. More than once a “find spot” was taken off the platform at the request of users, lest it get over-used.

While most of the 150 press articles about the *mundraub* initiative focused on “fruit for free,” most users are strongly committed to the idea of sharing and crowdsourcing.²⁴ They are far more concerned about contributing than in getting something for free. They tag trees, discuss botanical issues and recipes connected to local fruit. Perhaps most importantly, fruit-pickers tell splendid anecdotes about the find spot.

Indeed, the information about the location of free fruit trees, property rights and some how-to rules provided on *mundraub.org* helps *Mundrauber* to jointly overtake responsibility for the fruity abundance. It’s wholly self-organized, and beyond the market and state in the very ways described by the Ostrom school. Nevertheless, we still have a long way to go: To conserve common fruit trees in the long run, regularly cutting the fruit trees and replanting young ones will be necessary. But the first move towards our common fruit has been made.

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Living In “The Garden Of Life”

By Margrit Kennedy and Declan Kennedy

Since 1985, an intentional community of about 100 adults and 40 children in the middle of Lower Saxony, Germany has created the “Lebensgarten Steyerberg” out of a munitions factory housing project built in the late 1940s for World War II. The anchor of the community, which is spread out over 65 buildings, is a large community building that serves as a cultural and social center. It has offices, a kitchen and converted hospital space now used for various seminars on health-related topics, including dance, massage and nutrition, together with the so-called *Heilhaus* (a former hospital now called the Healing Center).

One of the greatest miracles that we experienced here at Lebensgarten (in English, the Garden of Life), is the greater diversity of skills that people somehow find and develop when the kind of specialists available in major cities are not around. Self-reliance opens up both the opportunity and the necessity to develop new competencies. This has enabled us to discover an entirely new quality of life and new dimensions of personal growth – which is precisely what is needed in the post-growth economy that is nearly upon us. The potential for growth in quality of life is limitless. We would like to present a few examples to illustrate what that means in Lebensgarten, what it requires of us and how it enables us to have resources.

It all began in 1985 with the conversion of the houses and the 2,000-square-meter community center. By focusing on conversion instead of new construction, we needed less building material, less energy for transportation and less labor. Each of us contributed what we could and was allowed to make progress in our own time. Each room in the community center was renovated on the basis of a different financing model, which included partly private, partly communal, and partly a combination of the two. Our respective projects have been financed in many different ways – through membership fees, donations, reduced interest or interest-free loans from residents and friends, income from the seminar program, bank loans as well as sweat equity. We have avoided loans as much as possible because our income varies from year to year.

We would never have believed that something like this would work so well before experiencing it in practice. Part of the reason is that we organize our voluntary work for projects so that participating is fun.

1 | <http://www.lebensgarten.de>

24 | In this context, crowdsourcing means the collaborative and self-organized collection and distribution of information and knowledge by a large number of people and actors interacting on *mundraub.org*, most of whom are unknown. <http://www.mundraub.org>

One of the most important systems that we created is the Food Distribution Center, called LeDi, which lets us avoid the need for shopping trips. At the LeDi, we can get practically all the organic food and environmentally friendly products that we need, and at wholesale prices. All the adults and the older teenagers have keys for the LeDi, so they can help themselves to what they need at any time of day or night, deducting the price from the advance deposits they have made. This system makes it easier for them to stock the amounts of foods they need, and has been working for several years.

In addition to comprehensive, practical neighborly assistance in every situation, several people who live in Lebensgarten share a pool of vehicles. People can hang clothes they no longer need in the boutique, where others can take them free of charge. About half the residents of Lebensgarten have created their own jobs on site, mostly providing social or health services and skilled crafts and trades. The Lebensgarten has advanced to become the second largest provider of accommodation in the region due to the rooms available in private homes and the lodgings at the *Hausbau*. Lebensgarten is also a nucleus for new business start-ups and offers an innovative milieu for cooperative alliances of freelancers that is usually found only in major cities. Besides dance, yoga and other kinds of exercise programs, Lebensgarten also has a pub – which occasionally runs a disco – and a café that is open Sundays and features our baker's outstanding organic cakes.

Lebensgarten's kitchen offers everybody the splendid opportunity to enjoy tasty and wholesome meals and conversations with a diverse mix of diners instead of having to cook alone. We decided on vegetarian food grown organically because meat and milk consumption could be responsible for half of all greenhouse gas emissions, according to the newest calculations. Of course, everyone is free to prepare their own meals as they please at home.

It seems to me that our experience in handling conflicts is even more important than our use of multiple skills, spaces, cars and equipment. The most astonishing thing is that Lebensgarten is still in existence at all. According to most academic literature about communities, we should have broken up long ago because of internal conflicts. We are, after all, a whole cosmos of many different religious, spiritual and philosophical schools of thought. We are anything but uniform in terms of our ages, educations, incomes, backgrounds and professional experiences. Most of us had our own ideas about what the community was to look like or how it was supposed to work. That caused tensions time and again because nobody had grown up in such a community or knew the rules of the game for this kind of social cooperation. So we have had to devise the rules ourselves, and develop them further day by day with everyone who joined the community. One rule for conflicts is that we ask a neutral person to mediate between those involved in the conflict. If that does not prove successful, we use a more formal process of mediation.

So far, we have used a modified consensus procedure to make all the important decisions. If someone does not agree with a decision that affects her or him, then that person must be asked whether she or he could live with the decision nonetheless if it were made. If not, then the decision is not made in the overwhelming majority of cases. All in all, this procedure is faster and more sustainable than the

democratic voting procedure. We are lucky that we have no veto rights, not only because there, those who are voted down may later try to undermine the decision in some way – possibly even subconsciously.

In Lebensgarten, nobody is forced to do anything except obey the rules of the community and pay a fee of about 30 euros per month to the community coffers. Every single person is responsible for himself or herself, and everyone knows that this means that they bear responsibility for the community as a whole. This knowledge is passed along to people from outside in numerous enterprises and groups, including vegetarian cooking courses, the School for Understanding and Mediation, the Center for Non-Violent Communication Steyerberg, the Association for Mindfulness and Understanding, the forest kindergarten and the local Artubana group, a supportive community of patients that offers a self-organized alternative to the state health insurance system. Many people involved and engaged in these groups do not live in Lebensgarten, and the various forms of mediation serve as bridges between people who live here or outside the community. The Gaia Action-Learning Academy for Sustainability (GALA) is an educational institution that combines action learning with permaculture²¹ and other approaches to implement business goals for a healthy and sustainable world in practical ways.

The Lebensgarten kitchen has been increasing its use of fruit, vegetables and flowers produced here since the development of a permaculture park (PaLS) directly next to our grounds. In the final analysis, the growing number of decentralized structures means greater autonomy for all of us.

We have come to realize that wealth does not mean accumulating money. Instead, it comes alive in the quality of relationships among people. Wealth is multiplied in the opportunities to communicate with one another at a deep level, to celebrate special occasions, to develop rituals or to explore new patterns of relationships. We do not experience this as "doing without," but rather as a model that makes all of us richer together. Nature has been doing this for millions of years. The economic system is all about diversity, not sameness. It consists of cycles, not competition. Only with mutual understanding and creative connections among ourselves can a human society flourish.

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21 The concept of Permaculture has also inspired the Transition Town movement. See the essays by Gerd Wenzling on pp. 243–244 and by Rob Hopkins on pp. 19–24.

Reclaiming the Credit Commons: Towards a Butterfly Society

By Thomas H. Greco, Jr.

By now, local currencies and alternative exchange systems have become familiar themes in the media, even in mainstream newspapers like the *Wall Street Journal*, *The Guardian*, and *Der Spiegel* as well as on both local and network TV. These reports focus mainly on attempts to keep money circulating locally instead of “leaking out,” as a way of enhancing the vitality of local economies and improving the prospects of local businesses in their struggle to compete with large corporate chains.

All of that is well and good, but it misses the main point of what ails our communities – and our world. The problems facing our communities, and civilization as a whole, stem from the very nature of money and the mechanisms by which it is created and allocated by the members of the most powerful cartel the world has ever known. The entire global regime of money and banking has been designed to centralize power and concentrate wealth in the hands of a ruling elite and it has been doing that ever more effectively for quite a long time.

In every developed economy, labor is highly specialized. Very little of what we need do we make ourselves. This fact makes the exchange of goods and services necessary for subsistence. But primitive barter is inefficient and dependent upon a coincidence of wants or needs – “I have something you want and you have something I want.” If one of us has nothing the other wants, no barter is possible. Money was invented to enable exchanges that fall outside the local tight-knit communities in which less formalized modes of give and take are possible. It makes possible trade that is occasional and impersonal.

Money is first and foremost a medium of exchange, a kind of place-holder that enables a seller to deliver real value to a buyer, then use the money received to claim from the market something that s/he needs from someone else.

In earlier times, various commodities that were generally useful served the purpose of exchange media. I might, for example, have no personal use for tobacco, but knowing that many others desire it, I might accept it in payment for my apples. The same goes for gold and silver, which eventually became the preferred commodities for use as exchange media.

But money has evolved over time, money is no longer a “thing.” It is credit in a system of accounts, which manifests mainly as “deposits” in banks, and only

secondarily, in small amounts, as paper currency notes. Every national currency is supported by the collective credit of everyone who is obliged by law to accept it.

Quite simply, we have allowed the credit commons to be privatized so that it can be accessed only by appealing to some bank to grant a “loan.” Someone must go into debt in order for money to come into existence. But nothing is being loaned; banks simply create the money on the basis of the “borrower’s” promise to pay. As I put it, we give our collective credit to the banks then beg them to lend some of it back to us – and we pay them interest for the privilege. The result is a chronic scarcity of money within the productive sector of the economy even while money is lavished upon central governments to enable deficit spending to finance wars, bailouts, and all manner of wasteful spending.

But the worst aspect of the present global money system is its built-in requirement for continual growth – what I call the growth imperative. This stems from the fact that money is created on the basis of interest-bearing debt, so that the amount owed increases simply with the passage of time. But compound interest is an exponential growth function, which means that debt grows, not at a constant steady pace, but at an accelerating rate. The global money system requires the further continual expansion of debt in order to avoid financial collapse. Thus the bubble-and-bust cycles we have seen become ever more extreme, and the competition amongst borrowers for an insufficient supply of money results in ever-increasing environmental despoliation and social degradation.

The credit commons has been the most overlooked aspect of the commons, yet it is the most crucial, because credit is the very foundation and substance of modern money and money is the essential medium for exchanging goods and services. Whoever controls money controls virtually everything in the material world. The privatization of the credit commons has not only enabled the few to exploit the many, it has also driven economic expansion beyond any reasonable limits and fueled conflict over the control of resources around the world.

In a previous era, the world power structure was based on a collusive arrangement between political authority and religious authority. Kings, emperors and princes relied upon the ecclesiastical hierarchy to legitimize their rule. So long as the people were dependent upon the church and its priests for salvation and admission to “heaven,” they docilely accepted that state of affairs, but as beliefs began to change, ecclesiastical authorities lost most of their influence. Today, the global power structure is based upon a collusive arrangement between political authority and financial authority. Even in nominally democratic countries, it is the top level bankers and financiers and their minions in the media, education, medicine and other areas who select political leaders and determine public policy. So long as people depend upon the money that bankers create for their material “salvation” and admission to the “good life,” that state of affairs will continue causing the masses – the guarantors of government debt – to sink ever deeper into the quicksand of debt bondage.

The interest that must be paid to “borrow” our own credit from a bank is not the only parasitic element in this system. Another is the inflation of the money

supply that accompanies government's deficit spending. Most national governments consistently spend beyond their incomes, sucking real value out of the economy in return for counterfeit money that the banks create for them under color of law. This debasement of the currency inevitably results in higher prices of basic necessities in the marketplace. To these drains you can add the obscene salaries and bonuses that insiders pay themselves to run the system, and the periodic bailouts that they extract from governments.

The picture becomes crystal clear to anyone willing to take a close look at it. The dominant system of money and banking, based as it is upon usury and the centralization of power and wealth, has visited untold misery and injustice upon the human race and the entire web of life on planet Earth. It is a system that cannot be reformed, it can only be transcended.

Transcending the money system?

The good news is that we need not be victims of a system that is so obviously failing us. We have in our hands the power to reclaim the credit commons. We can do it peacefully and without attacking the entrenched regime. It only requires that we each take control of our own credit and give it to those individuals and businesses that merit it and withhold it from those that do not, and for us to apply our talents and energies to those enterprises that enhance community resilience, sustainability, self-reliance and the common good.

We have all been conditioned to chase after money as a way of providing ourselves and our families with the material necessities of life, but money has become an instrument of power, a contrivance that enables the few to control the course of human events. So long as we remain enthralled with the pursuit of money, we are all puppets on a string and must do the bidding of the puppet masters. That should be enough to get us to re-examine our current place of narrow self-interest, error and gross delusion.

Perhaps they will some day see the light, but we cannot afford to wait. The answer lies in learning to share, cooperate and reorganize to create what I like to call the "Butterfly Society." Community currencies and exchange systems provide an essential tool kit for community and self-empowerment, but they need to be designed in such a way as to make us less dependent upon political money and banks. Private exchange media should be issued on the basis of the value created and exchanged by local producers, especially the small and medium sized businesses that form the backbone of any economy. This means that a currency must be spent into circulation, not sold for money. It is possible to organize an entirely new structure of money, banking, and finance – one that is interest-free, decentralized, and controlled, not by banks or central governments, but by individuals and businesses that associate and organize themselves into cashless trading networks.

In brief, any group of people can organize to allocate their own collective credit amongst themselves, interest-free. This is merely an extension of the common

business practice of selling on open account – "I'll ship you the goods now and you can pay me later," except it is organized, not on a bilateral basis, but within a community of many buyers and sellers. Done on a large enough scale that includes a sufficiently broad range of goods and services, such systems can avoid the dysfunctions inherent in conventional money and banking. They can open the way to more harmonious and mutually beneficial relationships that enable the emergence of true economic democracy.

Mutual credit clearing – cashless trading

This approach is no pie-in-the-sky pipe dream. It is proven and well established. Known as mutual credit clearing, it is a process that is used by hundreds of thousands of businesses around the world that are members of scores of commercial "barter" exchanges that provide the necessary accounting and other services for cashless trading. In this process, the things you sell pay for the things you buy without using money as an intermediate exchange medium. Instead of chasing dollars, you use what you have to pay for what you need.

Unlike traditional barter, which depends upon a coincidence of wants and needs between two traders who each have something the other wants, mutual credit clearing provides an accounting for trade credits, a sort of internal currency, that allows traders to sell to some members and buy from others. There are reportedly more than 400,000 companies worldwide who, in this way, trade more than \$12 billion dollars worth of goods and services annually without the use of any national currency.

Perhaps the best example of a credit clearing exchange that has operated successfully over a long period of time is the WIR² Economic Circle Cooperative. Founded in Switzerland in the midst of the Great Depression as a self-help organization, WIR provides a means for its member businesses to continue to buy and sell with one another despite a shortage of Swiss francs in circulation. Over the past three quarters of a century, in good times and bad, WIR (now known as the WIR Bank) has continued to thrive. Its more than 60,000 members throughout Switzerland trade about \$2 billion worth of goods and services each year, paying each other, not in official money, but in their own accounting units called WIR credits.

Credit commons: a peaceful revolution for a happier society

The challenge for any network, of course, is to achieve sufficient scale to make it useful. The bigger the network, the more opportunities it provides for cashless trades to be made. In the early stages, it may require some help to find those opportunities, but as the members discover each other and become aware of what each has to offer, the benefits of participation become ever more evident and attractive. Like Facebook, Twitter, MySpace and other networks that are purely social, cashless trading networks will eventually grow exponentially—and that will

2. <http://www.wir.ch> ³ <http://www.wir.ch> ⁴ <http://www.wir.ch>

1 | On the concept of resilience see Rob Hopkins' essay on pp. 19-24.

mark a revolution – that puts us as well as our planet on a power track. It will be a quiet and peaceful revolution brought on, not by street demonstrations or by political campaigns, but by people who sense that their tasks really work together to use the power that is already ours – to apply the resources we have to support each other's productivity and to give credit where credit is due.

Through participation in an exchange network that is open, transparent and democratic, members enjoy the benefits of

- A reliable and friendly source of credit that is interest-free and community controlled.
- Less need for scarce dollars, euros, pounds, yen, or other political money.
- A stable and sustainable means of payment.
- Increased sales.
- A loyal customer base.
- Reliable suppliers.
- A more prosperous and livable community.

What will it take to make mutual credit clearing networks go viral the way social networks have? That is the key question, the answer to which has heretofore remained elusive. While the WIR has been an obvious success, it seems to have been intentionally constrained and prevented from spreading beyond Swiss borders. And while commercial "barter" has been significant and growing steadily for over forty years, its volume is still tiny in relation to the totality of economic activity.

As they are operated today, commercial trade exchanges are self-limiting and typically impose significant burdens upon their members. These include onerous fees for participation, exclusive memberships, limited scale and range of available goods and services within each exchange, the use of proprietary software, and insufficient standardization of operations, which limits the ability of members of one trade exchange to trade with members of other exchanges.

Virtually all commercial trade exchanges are small, local, and operated as for-profit businesses. Small scale, local control, and independent enterprise are all desirable characteristics. But when it comes to building a new exchange system, something more is required. What the world needs now is a means of payment that is locally controlled but globally useful. That means giving members of a local trade exchange the ability to trade with members of other exchanges easily and inexpensively, with little or no risk.

Here are the things that I believe are needed for cashless trading based on mutual credit clearing to go viral:

1. Members need to offer to the network, not only their slow-moving merchandise and luxury services, but their full range of goods and services at their usual everyday prices. This will assure the value of the internal trade credits and make them truly useful.
2. Like any "common carrier," trade exchanges should make membership open to all with little qualification.

3. Lines of credit (the overdraft privilege), however, must be determined according to each member's ability and willingness to reciprocate, measured, for example, by her record of sales into the network.
4. Trade exchanges must be operated for and by the members in a way that is transparent, open, and responsive.
5. Members must exercise their duties to provide proper oversight and support to the operation of their exchange.
6. Trade exchanges must master the dimensions of design and operation of their exchanges to assure that their internal credits maintain comparable value.

As trade exchanges master these dimensions of design and operation, they will become models for other exchanges to follow. Then the rapid growth phase will begin, leading eventually to an Internet-like global trading network that will make money obsolete and enable a freer, more harmonious society to emerge.

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Shared Space: A Space Shared Is a Space Doubled

By Sabine Lutz

Streets and plazas are the spaces of the public, the spaces where people encounter each other. Such encounters can be fleeting or intense, but they always imply the possibility of lingering. Yet lingering is difficult if not impossible if our roads are designed to serve the needs of traffic practically to the exclusion of everything else. The concept of *Shared Space* was developed to contrast any singular use of a space with a more flexible concept of space open to diverse uses. The design of a street should not predetermine just one particular use, but be open and adaptable for many uses.

Sharing, not dividing

Social processes and structures are reflected in public space. However, we have replaced social cooperation with legally regimented separation, where cars, pedestrians and cyclists each have their own lanes and each use (shopping, recreation, living and working) has its own area. *Shared Space* seeks to reconnect these uses.

Public space is characterized by the fact that it is the place where the most varied interests, outlooks on life and actions can meet. The opportunity for communication and mindfulness, consciously experiencing things and acting, is essential for this to occur. Mindfulness is directed both to one's external surroundings and to internal processes. It assumes that we are both independent individuals and responsible members of a polity. As individuals, we are diverse. As a collective, we need to create connections and cohesion among ourselves. Where could that be expressed better than in the street?

How does *Shared Space* work?

1. The most important prerequisite is decelerating automobile traffic. Contact and communication are possible only when people travel slowly. Deceleration is not brought about by force. It comes about when a street is redesigned to help drivers "hang together" for a moment: they see various people, hang together, they go left and right, and sometimes directly ahead. They recognize that the street is alive, not only lengthwise but also crosswise. They slow down, thereby making the street safer for everyone.

2. A different design encourages pedestrians and cyclists to use the entire street, not just the sidewalks and bike paths. They can cross the street wherever they like, not only at designated pedestrian crossings. That requires a certain amount of trust (but not blind trust) that generally speaking, drivers are not murderers. Pedestrians and cyclists, too, bear responsibility for safety. They make contact and make sure that they have been seen, while at the same time signaling to drivers: the street is not yours alone.

Imagine a country road linking several villages that has an intersection where dangerous situations often arise because people drive too fast. That intersection where accidents occur time and again turns the road into an undesired barrier within the surrounding area, which is used for recreation. On average 3,000 to 4,000 motor vehicles and 750 to 1,000 cyclists pass the intersection per day. This example is from the Netherlands: the road connects the villages of Ureterp, Siegerswoude and Bakkeveen. It took a lot of time for the residents of these villages to convince the politicians that *Shared Space* was a feasible option here. But they persevered and transformed the conventional intersection into a plaza where the drivers perceive the proximity of the villages, even if they cannot see them from there. Today, the local residents call it the "village square." Drivers approaching it cannot immediately see where the road continues, since it has been shifted sideways on the far side of the plaza. They have to get their bearings and drive more slowly, which makes the village square safer. Street furniture and greenery were designed with great care. The new village square provides for more mindfulness and more encounters. When the weather is good, there is even a small ice cream stand.



Backbone and commitment

If jointly used spaces are to function in practice and take account of transportation needs, urban design and social participation are required. Cities and towns do not need expensive or trendy road designs, they need a cross-sectoral perspective on the function, uses and design of public spaces. And this requires politicians with backbone – leaders who recognize that a different street design can result in different driving behaviors, and thus in turn can lead to less gasoline usage and lower CO₂ emissions.

But Shared Space also requires citizens to develop a different attitude and different behaviors. Citizens must have a say in decision-making, and tough choices have to be made, they must not shift responsibility to politicians, the police or the scientific community. The challenge is to act in a consensus-oriented and communicative manner rather than invoking our rights.

Shared Space stands for cooperation in partnership, not only in our behavior in the street, but also in forming opinions on current issues. Here, too, the challenge is to be creative and to share the work, the responsibility and the “space.” That results in citizens having more opportunities for self-determination and having their say. The condition is that everyone rethinks their position and takes responsibility, instead of considering themselves simply to be suppliers or consumers of public services.

Shared Space is a plea and an experimental practice for this type of common and continuous learning process in urban design and civic culture. There is a lot to be done if we are to make public space our space again. We’ve already made a start!

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Transition Towns: Initiatives of Transformation

By Gerd Wessling

In 2006, when Rob Hopkins moved from Ireland to the small English town of Totnes with his family and co-founded the first Transition Town Initiative in the world with some friends, he surely never imagined what he was starting. Six years on, there are more than 500 “official” Transition Town initiatives in more than 38 countries, and several thousand more are in the process of formation in many cities, towns and regions across the world.¹ The model of Transition transcends cultural barriers and languages, and works very well on all levels: in between the regional and the personal. It is open enough to inspire people from Brazilian favelas to small towns in Sweden, and it offers enough common features to forge global connections in how these people think and act in their locality. At the same time, it encourages them to adapt their practical work precisely to their local circumstances, making each Transition initiative unique in its features and projects.

What is it that makes the Transition model so attractive for so many extremely different people and cultures? What makes men, women and children get involved in a way that they have often been unaccustomed to, be it in public gardening projects, relearning forgotten cultural practices, re-imagining transportation and energy groups, or sharing their tools and knowledge? The answer might lie in the roots of the movement.

Less is more

The transition movement often refers to itself as the “head, heart and hands” of the energy and cultural transition. With that comes the importance of maintaining a balance between these three components, so that none outweighs the others. The “head” refers to scientific and mental conclusions and facts that inspired Hopkins and his collaborators to establish the first Transition Town in Totnes. It includes the insight that the present Western lifestyle is not sustainable, particularly when looking at it with an awareness of Peak Oil (and other resources peaking), climate change and global justice in resource use.

1 | See, e.g., www.transition-initiativen.de, www.transitionculture.org, and www.transitionnetwork.org.

Rather than preaching a doomsday scenario, the Transition movement considers these negative developments to be an opportunity – especially for the West – to significantly increase our quality of life immediately by transitioning to a gentler way of life based on greater sharing of resource use and better relationships. That involves recognizing that people can actually improve their quality of life by forsaking many of the goods and habits that they have grown to love, and that resistance to change is often born out of fear of loss and/or laziness. The tangible gains could include, for example:

- better air, water and soil quality as well as biological diversity, instead of further pollution due to fossil fuels;
- silence, instead of noise due to increasing traffic;
- a viable social life within one's own neighborhood, city or region, instead of increasing separation and geographic isolation; and
- respect for diversity, rather than aversion to people and practices perceived as unknown and foreign.

Some of these elements are part of the Transition Movement's "heart," or the so-called "inner Transition." For example, in an "inner Transition" group people might investigate together which of our "inner mechanisms" actually encourage us to create our external industrial growth model, which so often inflicts harm on our environment and our inner well-being. Another aspect of this work might be to examine how one's group can collaborate well and deal constructively with feelings of desperation and powerlessness, posed by overwhelming, "big" challenges. A first, important step might be simply to recognize those emotions and then to find wise and appropriate ways of dealing with them.

The "head," "heart" and the "hands" of the Transition movement draw further upon deep ecology approaches developed by Joanna Macy ("the work that reconnects") as well as the theories and practice of permaculture. "Permanent agriculture" was developed in the 1970s during the first oil crisis and pursues principles basic to every Transition initiative: observing and interaction, capturing and storing energy, generating and harvesting yields, creating self-regulating cycles and accepting feedback; using and valuing renewable resources and services, and not producing waste; integrating instead of separating; prioritizing small and slow solutions; appreciating diversity; paying attention to border zones; and responding creatively to change.

In further developing a Transition initiative, it is equally important to anchor both the "head" and the "heart" as concretely as possible in actions on the ground, be they neighborhood meetings, art or food projects, a reskilling workshop or regional currencies. There is no need to reinvent the wheel though; close exchange and cooperation with already existing initiatives will often do the job and create very rewarding new connections.

Powerful adoption of the transition model

Why has the Transition movement had such deep cultural resonances now? Haven't community gardens, discussion groups and places to share and exchange things been around for a long time? These questions have not yet been fully answered, and perhaps never will. Presumably the strong embrace of many Transition initiatives' adoptions has to do with the fact that compared with some existing movements and political groupings, the Transition model offers some fresh approaches. For example, it often encourages those people who previously just sympathized passively with "green" topics to become actively involved (in many cases, for the first time in their lives!). The Transition movement also offers a vision of a better future – developed in partnership between activists and people in their local community – that speaks to the needs of everyone, wherever and whenever they are. The efforts try to include people as they are, respecting and valuing whatever particular wisdom, creativity and talents they may have. The Transition approach is non-ideological and pragmatic, reflecting the motto: "There's already all the necessary creativity, genius and knowledge in the people in our neighborhood to solve our local problems with ingenious, creative and quality-of-life improving projects, while decreasing resource consumption and increasing our quality of life. How wonderful to finally be able to connect with them!"

Living with less (fossil fuel based) energy will probably be unavoidable in the future. Transition initiatives believe that it is better to plan for that, rather than to be shocked and surprised by it. The Transition approach that "the (local) solution will be just as big as the (local) problem" self-empowers us. A lot of positive energy emerges from the Transition model and its projects, which are often "contagious." They inspire people with enthusiasm and common sense, and are easily replicated. And all this while strengthening the resilience²¹ we so urgently need.

Another key realization of Transition and related movements is, "We ourselves must act, and we must act now." Waiting for governments and institutions to decide and act for us will simply not cut it. Another very positive result of this approach is that when people do get actively involved, they often escape feelings of powerlessness. "I'm just one person and whatever I do doesn't matter" is replaced by "Whatever I do in partnership with others transforms the whole."

Many people perceive their connections within a Transition initiative to be enriching. They also cherish the idea that Transition is still a big experiment whose outcome is uncertain. Nobody knows the answer because the answer simply doesn't exist. Thus the "cheerful disclaimer" on the Transition network websites and books that emphasizes the experimental approach of Transition.

If one were to spell out the Transition model from A to Z, we would have just reached the letter C in terms of its potential. There's still plenty to develop and we all are needed to fill the Transition model with life and our visions. One area of further challenge is certainly to look closer into the many principles and practices the commons and Transition share. They are like natural fellows and very much

21 See Rob Hopkins' essay on the concept of resilience on pp. 19–24.

at ease with each other. Thus it will be most inspiring to see how more and more Transition and commons projects globally overlap and thrive together in a most joyful and life-enriching way.

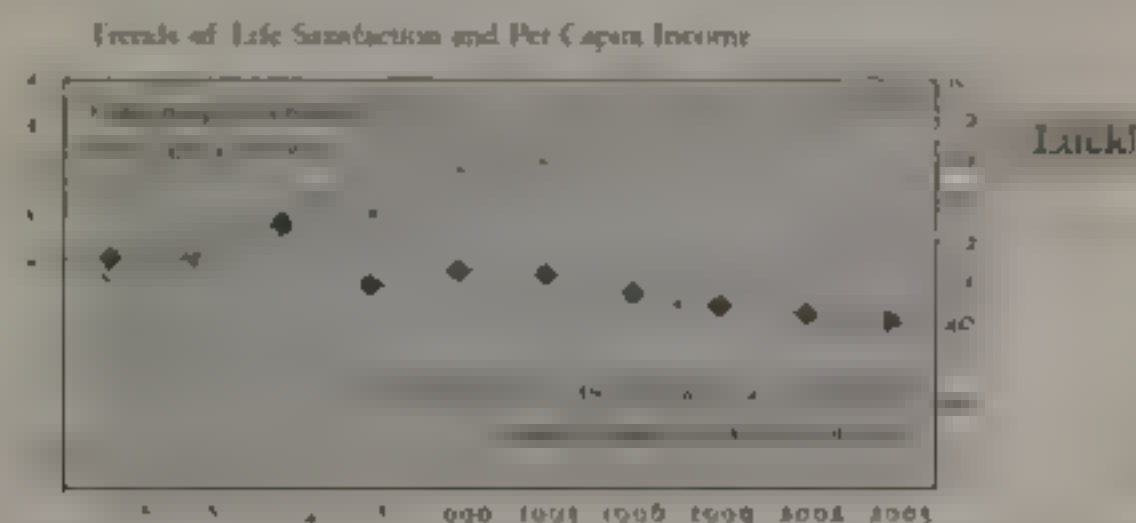
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Learning from Minamata: Creating High-Level Well-Being In Local Communities In Japan

By Takayoshi Kusago

The path of Japan's economic and social development after World War II has followed the trajectory of most industrialized countries: the pursuit of high economic growth on the assumption that higher per capita income would ensure people's life satisfaction. But, according to a survey published by the Japanese central government, life satisfaction constantly declined from 1984 to 2005. Two out of three persons are not satisfied with their overall life. This confirms a paradox first identified by Richard Easterlin (1974). There is a gap between the trends of life satisfaction and growth in per capita GDP.

Figure 1: Happiness Paradox



Research on subjective well-being shows that important elements of happiness include the possibility to work and to create, good social relationships, health, knowledge and life skills. Hence, the key question – at least in industrialized countries at the beginning of the 21st century – is not how to increase income for people, but how to change the economic and social system in ways that strengthen social relationships and thereby improve well-being.

If we want to leave the economic-welfare-driven development path and move towards one centered around well-being, we need to imagine and experiment with social innovations as well as new measures and indicators for a “happier” society. A deeper look at a real case from a city in Kyushu, Japan, suggests a wider horizon of what is possible.

The case of Minamata

About 20 years ago, when people from Minamata were asked where they came from, they avoided mentioning the name of their community.

Minamata is a small city of around 28,525 people (2008) located in the Kumamoto prefecture on the western side of Kyushu Island. Minamata's modernization was based on two key goals of the national development strategy envisioned in the Meiji period (1868-1912) *Fukoku Kyōhei*, a wealthy nation and a strong army. In 1908, Nippon Chisso, a company in the vanguard of the chemical industry, built its factory in Minamata. When the factory was established, people in Minamata had high expectations for the modernization of the local economy and regional prosperity. And in fact, Minamata was the first place in Kyushu to be wired for electricity. Industrial development was the core of Japan's economic strategy and Minamata was surely at its center.

In 1932, the Chisso Company started its operations by combining atmospheric nitrogen with calcium carbide to produce calcium cyanamide, a chemical fertilizer. Nitrogenous fertilizers were key to boosting agricultural production in Japan at the time, due to its lack of arable land and the small-scale nature of its farms. In 1941, it became the first Japanese producer of vinyl chloride. The city's population grew as the company expanded. After World War II, the factory regained its production capacity and led Japan's reconstruction and economic development in the postwar era. However, this economic success had an unexpected cost – a severe neurological disease caused by industrial pollution, "Minamata disease," which consisted of severe brain and nervous system damage, and sometimes death, was officially discovered in 1956. It especially affected people in fishing communities. According to official government measures published in 2001, 2,265 individuals in the area were afflicted, and 1,784 of those victims died as a result of the poisoning and/or the disease.¹

At first, the phenomenon was suspected to be some kind of epidemic or mental illness, but it was soon found to be non-infectious. The cause of the Minamata disease was ultimately identified as mercury metal in the effluents from the Chisso factory into Minamata Bay. Before the disease hit human beings through the food chain, fish of Minamata Bay began to float on the surface and cats were acting strangely, ending up by dashing into the ocean to commit suicide.

The number of patients increased, they were forced to go through very difficult lives both physically and mentally. Since it took more than ten years for the government of Japan to officially recognize the role of industrial pollution caused by Chisso, the victims of Minamata disease were virtually ignored by the company, the government and local people, resulting in great mental anguish and social decline. This was partly because the Chisso Company was so economically important to Minamata that many local residents, who heavily relied on Chisso for their livelihoods, were afraid of confronting the problem. For those identified as suffering Minamata disease, their lives became a hell as community people

shunned them, others with severe physical symptoms tried to hide their condition lest the community ostracize them. Some patients were both verbally and physically abused even by family members and people who once were good friends. In fact, the social stigma toward people in Minamata became a nationwide phenomenon. Passengers on trains entering Minamata shut their windows. Marriages were broken off if one of the people came from Minamata. It became customary for Minamata residents not to reveal where they came from.

Although Minamata disease was discovered in 1956, the wastewater discharge was not stopped immediately. Rather, the Chisso Company simply changed the location of its mercury effluent outlet. This continued until 1968 when the government officially recognized the effluent of the Chisso plant as the cause of the Minamata disease. The year of this acknowledgment was not accidental. The Chisso Company moved to new factory – Fukuoka factory with a new carbide-based technology that year. The carbide-based technology was no longer needed and the official recognition of Minamata disease would not hurt the nation's industrial development. The government's inaction for a decade had incurred enormous costs for people in Minamata, but also for those who lived in Niigata prefecture, which was afflicted by the so-called "second Minamata disease," caused by Showa Denko Company using the same old technology as Chisso.

People-driven initiative and public-citizen partnership

In 1969, victims of the Minamata disease filed the first lawsuit against Chisso, followed by a series of lawsuits by others that caused terrible divisions between those who were compensated and those who were not. The physical and mental toll of the disease, and the social trauma experienced by the community, went on for more than forty years. This started to change in 1994 when Masazumi Yoshii, who had been a member of Minamata city council for 19 years, was elected Mayor. He brought about a fundamental change in the public administration, from top-down to bottom-up, by establishing communication with the different patient groups – who, by then, did not get along well with each other. Yoshii also negotiated with the central and the prefecture government to finalize the compensation accord for all Minamata disease patients, regardless of the seriousness of their conditions.

On May 1, 1994, Yoshii gave a historic speech at the memorial ceremony of the Minamata disease. He offered a formal apology of the Minamata city government towards the Minamata disease patients for its lack of support for the last forty years and declared the vision of together building a new Minamata with a spirit of mutual helpfulness. He called it MOYAINAOSHI, a term which comprises searching for solutions through dialogue and collaboration. He declared these to be the core elements for restoring social relationships among people and between communities, the environment and the people of Minamata. These core elements became what is now called the MOYAINAOSHI movement.

Let's have a look at the key actions taken by the government and local people since 1994. (Kusago 2011)

1 | <http://www.env.go.jp/en/chem/hs/minamata2002/ch2.html>

1. A new vision

Two years before Yoshii's 1994 announcement, Minamata city officials drew attention to the need to change the development paradigm to one emphasizing high productivity and growth in an environmentally friendly mode. The vision was to create a Model Environment City.

2. An innovative "environment meister"

Minamata City has designed the environment meister program, which was implemented in 1998. This program offers certification for safe, healthy and environmentally sensitive products. Certification as a meister has been granted to 28 products: pesticides, rice, tea, natural products, vegetables and other products, keasardens without preservatives. To be qualified as a meister, six criteria must be met:

- Constant production of safe, environmentally friendly and healthy products over five years.
- Experience making such products using natural materials and avoiding chemical substances, etc.,
- Knowledge about and experience with techniques for making products that are safe for environment and health,
- Involvement in activities related to regional environmental problems and environmental conservation
- Knowledge of environmental problems and environmental conservation, and
- Knowledge of the problems attributed to environmental pollution, including Minamata Disease.

3. Grassroots action

The new direction taken by the city government after 1994 motivated local residents to improve the relationship between city and grassroots groups. One example is a women's waste reduction group that improved an ambitious garbage sorting program started by the municipality in 1993. The women studied the root cause of garbage production and found that plastic trays used by stores were a major problem. After actively revealing usage of trays and shopping bags at retail shops, they negotiated successfully with the major retail shops to agree to stop using the trays. In addition, the women's groups started distributing shopping bags to all residents to reduce usage of new shopping bags. They also introduced a certificate for "eco-shops," which are stores that promote the conservation of resources and energy, reduce the volume of waste and work on recycling. It was the women who substantially reduced the city's output of garbage.

4: Neighborhood study, or "Jimotogaku"

Minamata has both fishing communities and mountain communities. While people in fishing communities have suffered Minamata disease for more than fifty years, people in mountain communities, while suffering less from the disease, faced another problem, urbanization and out-migration. The overwhelming number of jobs in modern Japan was generated in urban or semi-urban areas. Thus, those working for work is steadily abandoning the village to go to big cities like Tokyo, Osaka or Fukuoka. In Minamata's mountain communities the number of residents had declined for years. This situation was seen as the inevitable "fate" of the rural communities in a time of modern development and industrialization.

Tetsuo Yoshimoto, a city officer in Minamata, had himself fretted about the demise of once-beautiful ways of life in the region. He realized that the revitalization of mountain communities might be possible if the city of Minamata looked at them through the lens of MUYAINAOSHI. Yoshimoto saw Minamata city as a whole – an ecosystem centered around the Minamata River flowing from the mountain communities to the fishing area. He proposed that changing local people's mindsets by making them aware of all the resources they possess in their own local communities was a possible long-range strategy to attract visitors. Moved by this vision, whose primary purpose was saving Minamata from a second Minamata disease issues, asked local people to guide them in the local village.

Over 3,000 people between 2004 and 2008, many of them from abroad, enjoyed the rural setting and were impressed by the beautiful landscape and the unique livelihoods. In the course of interacting with their guests, local guides were surprised to hear such positive feelings about their communities and such interest in their lifestyles. They had assumed that they were seen as hopelessly "backward" in the modern world. After serving as guides to visitors, they gradually came to understand that they were not "behind," but rather, that they had the potential to develop their communities by themselves. The organized visits proved to be a simple way to enhance local people's autonomy through mutual learning with outsiders.

Based on this experience, one rural community Kagumeishi has started a living museum of Kagumeishi. Women opened a local catering business adopting a philosophy of local production for local consumption. The primary school of Kagumeishi has developed a school play about the history of the community, with local music and dance. To practice the script, elderly residents taught primary school students how to sing and dance. Kagumeishi received an award from the central government as the best practice to revive community in 2005. Currently, there are four communities adopting the neighborhood study method in Minamata.

This method, called "Jimotogaku" was born in the local communities of Minamata. Jimotogaku as a method and a practice focuses on existing local resources, including nature, history, customs, and people, and facilitates the community's interest in managing its resources. "Stop asking for what we do not have, let us start from finding out what we have" is a principle of Jimotogaku. The method also emphasizes collaboration among "Soil and Wind," i.e., community people and outsiders to find out what the local communities have and how to use

21. *Meister* is derived from the "magister" (Latin for teacher). In Germany and Austria the word *Meister* is a title in the crafts guilds. In English, a person referred to as *Meister* is one who has intensive theoretical knowledge and practical skills in his profession, business, or some other kind of work or activity. Wikipedia, at <https://en.wikipedia.org/wiki/Meister>.

those local resources to improve their own well-being. One of the Curator's Rules of Thumb in Minamata is: "Never say, 'There is nothing particular in this village'" Jimotogaku aims at building pride in a community's identity, traditions and lifestyle, and in enhancing autonomy in the design and implementation of local development (Yoshimoto 2008).

Revitalizing community from below

A once-broken Japanese community, where people saw only darkness and hopelessness in their local economy, has restored its social bonds and relationships with nature. Minamata had once pursued its well-being through a development model based on growth and foreign technology. Today, the city focuses on the reconstruction and recovery of social inclusion, environmental conservation and the promotion of cultural and spiritual heritage. Minamata has used the neighborhood study method, Jimotogaku, and a people-centered vision to convert a city famous for industrial pollution and an ongoing environmental disaster into a model environmental city. Minamata's new development path was initiated by an excellent leader and followed up with concrete actions taken by his city hall staff – together with local residents. It has shown how government can forge an exemplary public-citizen partnership to reverse a troubled local situation and develop sustainable new models of action. The people of Minamata, in fact, were awarded a national prize for their work in revitalizing their local community.

It is easy to feel despair when witnessing catastrophic harms caused by a development model based on growth and the depletion of resources, and the heinous acts of large corporations and banks. The recent history of Minamata, a city that has suffered the most damage from a chemical accident, shows it is possible to rescue and improve even extremely distressed communities hurt by tragic acts. It is possible to redesign our communities, neighborhoods and livelihoods to pursue a more balanced form of well-being.

Today, when people are asked where they come from, they proudly say: From Minamata.

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Share or Die – A Challenge for Our Times

By Neal Gorenflo

About a year ago, a weather-beaten, middle-aged man asked me for money on the platform of the Mountain View Caltrain station. I gave him three dollars. He thanked me, and asked what I did for work. I introduced myself, learned his name, Jeff, and we shook hands. I pulled out a card from my computer bag, and handed it to him as I told him that I publish an online magazine about sharing.

Jeff lit up, "Oh I get that – when you're homeless, it's share or die."

That got my attention. I asked him to explain. Jeff said that a year earlier, his girlfriend drank herself to death alone in a motel room. He said she wouldn't have died had someone been with her. For him, isolation equaled death.

Jeff explained his perspective further: that he had no problem giving his last dollar or cigarette to a friend, that it comes back when you need it. But there are those who just take. You stay away from them.

I asked him about the homeless in Mountain View, which is in the middle of prosperous Silicon Valley. Jeff said there are 800 homeless people in the city, and that each has a similar story.

That conversation got under my skin. I shared it with Malcolm Harris the next day on a call about this book. Half joking, I suggested Jeff's phrase, Share or Die, as a title. At the time, I thought it was over-the-top, I wasn't serious. But, thankfully, Malcolm began using it in correspondence about the book. It stuck.

My conversation with Jeff marked a turning point in my thinking. I had thought of sharing as merely smart because it creates positive social, environmental, and economic change through one strategy.

But Jeff's story and the directness of his phrase – share or die – broke through my intellectualization of sharing. Jeff helped me see something that I was blind to, even though I knew all the facts – that sharing is not just a smart strategy, it's necessary for our survival as a species. This has always been so, but today our condition is especially acute.

We're using 50 percent more natural resources per year than the earth can replace, and the global population and per capita consumption are growing. And despite the overconsumption, countries all over the world are being rocked by social unrest because of how unevenly resources are distributed. The social contract is

of others and realize that place and security are not likely to escalate. It's now clear it's obvious to me that we need to learn to share on a global scale fast, or die.

But the threat is not only one of biological death. Those like me — who are in no danger of starving anytime soon — face a spiritual death when we act as if well-being is a private affair, deny the influence we have on each other, and gate ourselves off from the rest of humanity with money and property. We can neither survive nor live well unless we share.

The path to this realization has been slow but steady. I started down it seven years ago when I deliberately shifted my life toward sharing. This shift led to co-founding *Shareable* magazine two years ago, where I'm publisher. I could never have gotten to the place where I realized how fundamental sharing is to the human experience without my work at *Shareable*. I've been able to see how my own personal narrative connects with an emerging collective narrative about how to thrive as a person within a commons-based society. I hope that our work helps many others see how they can be individual successes within a larger collective success through sharing.

While this consciousness is new to me, we understood the importance of storytelling to movement building when we started *Shareable*. From the beginning, *Shareable's* editorial strategy was to affirm those who already share — the sharing community — while at the same time moving sharing into mainstream dialogue through emotionally engaging stories about ordinary people who build rich lives, successful enterprises, and vibrant communities through sharing.

In our minds, the sharing community encompasses all of humanity — though we wanted to speak to influencers in the “developed world” who sensed an impending societal resource crisis or had already experienced a personal crisis and were seeking new ideas about how to provision society or themselves. This bias reflects not only the background of *Shareable's* founders, but also the belief that our cohort has an outsized influence on society, whether deserved or not, which it is using to do a lot of damage.

Over time our focus has sharpened. Since we launched, we've increased our focus on topics with one or more of the following characteristics: 1) Contexts where more sharing could have profound impacts; 2) Topics that already generate a lot of dialogue; and 3) Domains where there are a lot of interesting edge cases. This has led to more emphasis on three areas: the young people in their twenties who are called “Generation Y”, cities, and “collaborative consumption,” often spurred by technology startups. Together, these focal areas address questions about who, where, and how the developed world might share in the future.

1. Generation Y

If the commons are to triumph, it's going to need commoners. This is where the next generation comes in. There's a strong argument that Gen Y is the generation that can bring a shareable world to scale. Roughly 100 million strong in the United States alone, Gen Y grew up on the Internet and brings its values and practices, including sharing, into the real world. In 2009, the marketing firm

TrendWatching called them Generation G (for “generous”) and said they are accelerating a cultural shift where “giving is already the new taking.” The people of Gen Y may not reach their full sharing potential until later in life, but there are promising trends:

- A recent UCLA poll found that over 75 percent of incoming freshman believe it's “essential or very important” to help others in difficulty, the highest figure in 36 years.
- The same poll found that “working for a cause” was a top career objective, ranking it higher than making money.
- Eighty-three percent will trust a company more if it's socially and environmentally responsible.
- The Arab Spring, the UK movement against public service cuts, 15 M in Spain, and the Occupy Wall Street movement were arguably spear-headed by this generation.

Business strategist Gary Hamel believes that this massive generational force which outnumbers baby boomers, promises to transform our world in the image of the Internet, a world where sharing and contributing to the common good are as normal as breathing. William Strauss and Neil Howe, authors of *Millennials Rising*, believes that Gen Y is a hero generation, coming of age in a time of crisis — a crisis they're already helping to resolve, largely by applying the tools and mindset of sharing.

This possibility inspired *Shareable* to produce *Share or Die*, an anthology of personal narratives, analyses, cartoons, and how-tos by Gen Y to help Gen Y thrive as they attempt to remake the world. It's fitting that the title was inspired by a homeless man, for we are moving toward a condition of collective homelessness through the destruction of our environment.

2. Shareable cities

A revolution is underway in our conception of cities. It couldn't come any sooner, considering that 2007 was the first year in human history that the majority of human beings lived in cities. Perhaps as a result, cities are becoming the focal point for our collective hopes and dreams, as well as for all kinds of innovation needed to avert worsening environmental and economic crises.

In the past, we tended to see cities as dirty, unnatural, and isolating places; today, citizens and urban planners alike are starting to see their potential for generating widespread well-being at low financial and environmental cost. There's increasing appreciation for the benefits of public transit and urban agriculture. People want the streets to make room for pedestrians and bicyclists, and for civic engagement. The very thing that defines a city — its population density — makes sharing easier, from cars to bikes to homes.

Perhaps in response, there seems to be a boomlet in technology that helps First World urbanites understand their environment, share, and use resources more efficiently. IBM has based a massive Smarter Cities campaign around this theme

But it may be that the most successful innovations will spring from the megacities of the developing world, in the absence of vast financial resources, these cities may learn to optimize human well-being over economic growth through investing in commons such as schools, parks and public transportation. Bogotá became a happiness city again. Former Bogotá mayor Enrique Peñalosa, who pioneered a number of public sector civic innovations, including "participatory budgeting," knows from experience that it's possible.

At *Shareable*, we're convinced that we need to see cities as places to foster commons, and not just markets. To explore that idea further, we started a 20-part series, "Policies for a Shareable City," to outline a policy framework to support urban resource sharing, co-production and mutual aid in the context of a developing world. The regulatory environment should not just support markets, but also commons-based activity involving food, transportation, housing, governance and more.

3. Collaborative consumption and sharing as a lifestyle

The ways to share in everyday life seem to be multiplying like rabbits, but maybe the Great Recession is just forcing all of us to pay more attention these days. There's car sharing, ride sharing, tool sharing, co-working, co-living, co-working, co-living, tool libraries, and all kinds of cooperatives – the list goes on. There are also ways to share power, dialogue and knowledge, such as workplace democracy, citizens deliberative councils, "unconferences" (open, self-organized gatherings) and "world cafés" (focused deliberations).

There are also scores of new Internet startups that are helping people meet real needs. For instance, there's Airbnb (peer accommodations), Thredup (kids clothes), Chegg (textbook rentals), NeighborGoods (general sharing), RelayRides (peer-to-peer car sharing), Hyperlocavore (garden dating), Zimride (ride sharing) and many others.

Taking all of these into account, it's entirely possible to build much of one's life around sharing. You could live in a cohousing community, work in a co-op, grow food in your neighbor's yard, and get to the open space town council meeting via your car share. A shift in emphasis from ownership to access – taking possession of an asset only when we need to use it – can liberate us from the burdens of ownership such as the high costs of maintenance, insurance, taxes, legal liability, storage and disposal.

The positive dynamics of car sharing suggest what's possible if the economy is restructured for access instead of ownership. Carsharing is the decades-old archetype of the sharing economy, but it has arguably only come of age recently with mature technology, a global footprint, and with the first publicly traded car sharing company, Zipcar. With maturity comes statistics: A 2010 UC Berkeley survey of 6,281 North American carsharing members showed that 69 percent of households who didn't already have access to a car joined to get access to one, and that the total vehicle count in the sample dropped by 30 percent after joining. The same study showed that one carsharing vehicle replaces 9–13 owned cars. A

2011 eGo Carshare study showed that car travel by members dropped an average of 52 percent after joining. The American Public Transportation Association estimates that people save an average of \$6,400 a year for each car eliminated from a household. The Intelligent Cities Project estimates that a city can keep \$127 million in the local economy annually by reducing the number of cars owned in a city by 15,000.

These findings suggest that collaborative consumption can significantly broaden citizen access to resources, dramatically reduce resource consumption, save citizens big bucks, and strengthen the urban economy all through one strategy – sharing.

While sharing and commons are likely as old as we are as a species, I can't help feeling that these few examples show that something radically new is afoot. Could it be that the confluence of a new generation, new technologies and a rapidly urbanizing global population are setting the stage for the emergence of a commons-based global civilization? There's no way to know for sure, but by understanding our roles in the struggle for the commons and the tectonic shifts about us, we have a better shot at meeting the ultimate challenge – sharing the world's resources. For it becomes clearer every day that our survival depends on increasing our capacity to share. The phrase "share or die" may shock, but it's the shock of the truth.

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The Faxinal: A Brazilian Experience with the Commons and Its Relationship with the State

By Mayra Lafoz Bertussi

In Brazil, innumerable land tenure situations are to be found that express great variety amidst the State's imposition of limited forms of property use. Collective identities, which find expression in social movements, reaffirm their rights to the common use of their territories: communities of indigenous, *quilombolas* (descendants of members of runaway slave communities), *quebradeiras de coco babaçu* (or women palm oil coconut breakers), *carijaras*, *cipoeiros*¹ and *faxinalenses*, or members of the faxinal communities. Examining those forms of appropriation of the territory opens the door to important interpretations of the commons. Here I place emphasis on the common use of territory through the experience of the peoples of the faxinal communities in the state of Paraná, Brazil.

Characterizing a faxinal is a delicate matter, as it requires that one define categories. One possible characterization of the faxinal is the designation of a part of the territory for use as a commons. Often known as *criação comum* ("common stock raising area") or *terra de criar* ("land for stock-raising"), such areas are used by the residents of the community to put their animals to pasture and to extract plant resources. Without fences that delimit the area around each property, the animals of a faxinal roam freely in the common area and feed from plant resources beyond what constitutes each community member's private property. The common use of the territory coexists with the legal existence of private property. The experience of the faxinal communities attests precisely to the fact that in the commons private property and common use are interconnected.²

Criações, which is to say the animals in the space set aside for stock-raising, are private property and ensure the food security of the residents. Nonetheless, it is not possible to restrict the categorization of the livestock solely on the basis of their function. Such animals are part of the landscape of a faxinal, and are engaged in the construction of the territories. *Criações* may be *soltas* (open) or *fechadas* (closed). The quality of "open" or "closed" casts light on an understanding that permeates

the use of that territory. "Open" is a way of designating the common use; "closed" designates individual use. And thus explains the dynamic of the relationship between common and private use. In this sense, "open" or "closed" may be used for both animals and for natural resources: "open watering place," "closed area for growing yerba mate," "open herd of swine."

In addition to the area for stock-raising is the plot for crops, the *lavoura*, which is used individually and known as *terra de planta* or crop area. The space used as commons has abundant forest cover, whereas the crop area is cleared and all planted. As there are no fences delimiting each property within the common area, the existing fences delimit the common area and keep the animals from invading the crops. The dwellings are within the common area.

The lack of concern with protecting private property in a faxinal does not mean it is an area without owners and without use rules. The arrangements that govern the use of the territory are not apparent because they take on different forms. The most common have to do with work on the fences. A person who works on building or maintaining fences and barriers may let his animals out in the common area. The work is also recognized when it is done collectively: such collective work on fences is referred to as *mutirão de cerca*. As a form of recognizing and valuing partners, the *mutirão de cerca* attests to one expression of the common use of the territory.

The territory, taken here as a broad category that encompasses expressive social and cultural forms, is permeated by local relationships and agreements between owners and residents. The pasture, the animals themselves, the water, the fences, the barriers, are all active elements in the construction of territories permeated by the relationship between common use and private property.

Diversity and the State: a complex relationship

The first regulation aimed principally at the faxinal communities was State Decree No. 3477 of 1997, of the Environmental Institute of Paraná (IAP: Instituto Ambiental do Paraná), which recognized the faxinal communities as sustainable use conservation units. That regulation uses the term *Sistema Faxinal* ("Faxinal System") to characterize a mode of production. The legal text emphasizes the term *sistema faxinal*, highlighting the productivist and environmental angles, where the environment is emphasized to the detriment of a traditional way of life of the peoples of the faxinal communities. In that case, the environmental discourse does not take into consideration the role of the local communities themselves in preserving their own environment (Shitaishi 2009).

In August 2005 a political organization emerged to guarantee the defense of collective and territorial rights – the *Articulação Puxirão dos Povos Faxinalenses*.³ Mobilized around a collective identity, the peoples of the faxinal communities recognize themselves as traditional peoples and make access to the territory their main demand. Their argument in pursuing this aim is recognition of the traditional nature of a unique and distinct territory.

1. The *carijaras* are a community of people who live in a small area of the coast, close to the Faxinal, with the territory, who live from extraction. *Carijaras* live near the sea and engage in both artisanal fishing and crop farming. *Cipoeiros* are extractivists who make a living by making crafts out of the vines (*cipó*) that grow where they live (they are "of the *cipó*").

2. See also the essay by Luiz Alden Wily on international land grabs on pp. 132-140.

3. Editors' note: *Puxirão* may be understood as *mutirão*, that is, collective work.

The peoples of the faxinal communities put forth understandings of "traditional" that go beyond a linear conception of time. What is called "traditional" is not reduced to history, a remote and static past. As a contemporary form of vindication, traditional peoples and communities incorporate collective identities in the context of specific mobilizations and situations.

Articulação Puxirão dos Povos Faxinalenses generally embraces the positions of what are called new social movements (Almeida 2008). Those groups, by taking on ethnic and collective characteristics in the context of political struggles, make explicit a plurality of ways of being in the world and are able to give visibility to the existence of different groups within the Brazilian nation-state. The organization exists relying on ethnicity as the original or primordial characteristic in empowering one's otherness within the State. In this regard, there is no "original faxinalense" or a "true identity," but rather groups that vindicate such self identification and belonging.

This updated historical perspective, which has been attained due to the emergence of the collective identity, recently brought about by political and social organizing, does not annul the primary experience, which refers back to a common descentance. The peoples of the faxinal communities access an array of conceptions, all at the same time, when it comes to strengthening a collective identity. In this sense, the identity of povos de faxinais, or peoples of faxinal communities inherently entails a diversity and variability of situations. Their ancestors came from different places, which is also an argument for their self-identification. The faxinal communities are made up of caboclos, Poles, Ukrainians and Germans; often times they go by the name of the predominant family or the group with the most influence either in constituting or reproducing the territory – e.g. Faxinal dos Kugues, Faxinal dos Coutos. With the emergence of an organization based on self definition, all that variability is brought together in the designation of peoples of the faxinal communities (povos de faxinais, or faxinalenses).

The diversity and variability of situations are very important for understanding the faxinal communities, as it reveals aspects and dynamics of identity relationships – both identity of origin and the current formats for representing their identity. Reflecting on this diversity of the faxinal peoples means rejecting an essentialist approach based on the search for a supposed authentic identity. There are various practices in relation to the common use area. Some faxinal communities have open stock-raising areas, that is, without a fence, others allow common pasturing only for large livestock, such as cattle and equines.

In 2006 the social organization was designated a member of the National Commission on Sustainable Development of Traditional Peoples and Communities. A parity (government/civil society) body appointed by the Brazilian State, the Commission brings together representatives of the federal public administration and civil society organizations with traditional peoples and communities. On February 7, 2007 Decree 6.040 was approved; it instituted the National Policy on Sustainable Development of Traditional Peoples and Communities, which includes the peoples of faxinal communities.

In 2007, after constant pressure from the Articulação Puxirão, political organizing efforts resulted in state recognition. According to the law, the state of Paraná recognizes that the faxinal communities have a specific relationship with the territory. While the 1997 state decree does not highlight any particular feature of the faxinal peoples, Article 2 of State Law 15.673/2007 recognizes their identity as such as a criterion for determining the traditional peoples who occupy and use the territory in that specific way. Nonetheless, to date the state has taken few specific initiatives to recognize faxinal territories. Some municipalities already have local legislation to recognize the faxinal communities, yet none has secured formal tenure.

Such legislation represents significant gains in terms of the state recognizing realities of identity and land tenure that link common use and private property. Nonetheless, like several other peoples, the peoples of the faxinal communities still face explicit resistance when it comes to exercising their rights. Several persons have given testimony of violence and persecution against the members of the faxinal communities, and the livestock also suffer hostilities as a symbolic way to deny common use. The authorities ignore most of the legislation recognizing the faxinal territory. Most of the time, the argument in favor of private property is superimposed on rights related to common use.

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Capable Leadership, Institutional Skills and Resource Abundance Behind Flourishing Coastal Marine Commons In Chile

By Gloria L. Gallardo Fernandez & Eva Friman

In the mid-1970s, with the neoliberal economic policy in Chile, exports of the shellfish loco – the most important species economically – increased, rapidly incorporating artisanal fishers to the global market. Landings of the catch of loco soon reached unprecedented levels only to abruptly fall again – taken as a sign of overexploitation. After a decade of overexploitation, several conservation measures were implemented that left fisheries as a new policy area. A law was enacted in 1991, instituting a new scheme of “territorial use rights in fisheries,” or TURFs.

Chilean TURFs, known as management areas (MAs), work within a co-management framework to combine government regulations with fishers' own rules. The TURF system allows fishers to receive exclusive, nontransferable and renewable access and use rights to specific benthic resources (those near the bottom of a body of water) within an allocated seabed. TURFs are only granted to fisher organizations. Between 250 and 600 hectares in size, the MAs are in the prime fishing grounds within the five nautical miles of the coastal zone reserved for artisanal fishers. Since 1997, TURFs have spread along the Chilean coast as the fisheries management regime for more than 30,000 fishers.

Artisanal fisheries land almost all edible fish in Chile, while any high value species generally go to export. Fishers are organized around caletas, about 440 permanent small-scale fishing ports within private or State/municipal land. In some rural areas, caletas are equivalent to fishing villages; in others, fishers live some distance away. A caleta usually involves a pier, a boatyard, huts or sheds in which fisher camp, or houses or a community in which fishers live. Rural caletas often lack electricity, running water, sewage systems and paved roads. Since the new legislation, fishers must fish in a permanent place, no longer allowed to move along the coast, a rule that many fishers do not appreciate.

From rivalry to collective action

To apply for an MA is a challenge. Fishers must organize, recruit members and choose leadership. Each organization must decide on its own rules, sanctions for noncompliance, joining fees, exit rules, surveillance mechanisms, income distribution and amounts to set aside for MA costs and social purposes. This demands a certain level of organization and social cohesion. Regulations can be changed by the assembly, i.e., all members, which make key decisions. MAs have a board in charge, and often delegate responsibility for administration, vigilance and enforcement to subcommittees. Fishers collectively decide when to harvest and at what price to sell, instead of competing for resources in boat crews of three or four as they did earlier. A third of all existing fisher organizations (including non-MA ones) sell their landings in common (INE 2008–2009).

In terms of fishing, the MAs provide better management and planning, greater resources and an improved extraction system. The more than 600 fishery organizations on power boats, which draft laws with government authorities, now monitor extraction and work with inspectors. So far, they have avoided using force to do things without state social welfare, i.e., pensions or insurance for health, disability or death. Within the MAs, they are now able to provide such social welfare benefits for themselves.

TURFs for making a living? TURFs for long term sustainability?

Incomes derived from MAs vary remarkably, as do MA costs that depend in large part on the size and location (urban/rural) of fisheries and the distances to get there. In the early years of the TURF system, performance of MAs in region IV, the system's “cradle,” was rather poor, disappointing fishers' high expectations. Measured in 2003, only five of thirty MAs studied did well economically; the rest performed regularly or worse (Zufuiga et al. 2008). Thus MAs, while not a complete economic solution for fishers, are a complement to their livelihoods.

Since 1998, fishers have been allowed to extract locos (the main species for most MAs) only within MAs, and it has become illegal in the open access zones that coexist with MAs. Such open access zones are open to all fishers registered in the region. Both MA and non-MA members try to exceed the existing rules for livelihood reasons. In fact, half of fishers' incomes (including the incomes of MA members) derive from illegal extraction in open access (Orensanz et al. 2005).

And yet scholars and authorities have found that the TURFs are helping to conserve fisheries within MAs – while the contrary holds for open access zones (San Martín et al. 2010) even though the two are ecologically connected. These results show that sustainability may not imply profitability in the short run; low economic results can even indicate a long-run advance towards sustainability (Zufuiga et al. 2008). However, if a MA performs economically poorly, it “further encourages shifts to more desperate and destructive fishing techniques,” endangering the ecosystem (Qashu 1999). Fishers' livelihood needs may overshadow conservation concerns if economic returns from the MA are lower than the

This paper partially fulfills the requirements of Gloria L. Gallardo's M.A. thesis, *New Marine Commons Along the Chilean Coast: The Management Areas (MAs) of Penteas and Pichilemu*, Universidad de Valparaíso, Chile. The authors would like to thank the fishers in 2008 and 2011, and email and phone contacts.

costs and efforts of engaging in it and benefits from the territory are less attractive than those outside of it (Gallardo and Friman 2011).

Thus, good economic returns and the value of fishers using their TURFs are two conditions that have to be fulfilled to perform well. Also associated to successful TURFs are two preconditions: one is resource abundance (which might imply multi-species extraction), and the other is sufficient demand from national and/or international markets. However, it appears that human agency in the form of capable leadership and institutional skills – and the capacity to confront new challenges – may be the key condition for economic performance (increasing incomes, income stability and per capita patrimony) and for institutional robustness (well-functioning organization, participation in decision-making, respect for self-imposed rules, few free riders, trust, cohesion, empowerment, self-esteem, social welfare system). Taken together, these pre(conditions) can enable fishers to begin an upward spiral of success in meeting new challenges and diversifying activities that in turn empower them further, while lowering the pressure on the ecosystem and making them less vulnerable to global business cycles.

Fifteen years after the implementation of MAs, many of them still perform poorly, economically and institutionally (Gallardo and Friman 2011). Of the five best performing MAs in regions III and IV in 2003, Peñuelas was the best, with a global indicator scoring of 0.678² and annual per capita income of 1,101,216 pesos (US\$1,829). Punta de Choros, by contrast, scored only 0.32 in spite of a higher per capita income (1,222,933 pesos [US\$5,184]) (Zuñiga et al. 2008). The latest statistics on landings show that these two MAs are performing well, and that there is resource abundance in their seabed. If Punta de Choros scored low in 2003, things seem to have dramatically changed for the better.

Peñuelas

It is worth exploring the operations of the urban Peñuelas MA in greater depth. The MA has 288 hectares and 197 male members, including 10 retired fishers who are counted when dividing the income. *Machos* – the main target species – are extracted by divers at eight meters depth. Peñuelas' association is headed by a biannually elected board responsible for all aspects of the association, which has several commissions taking care of the MA operations.

The *caleta* is situated in the south part of Coquimbo bay in La Serena City, a popular upper- and middle-class summer resort of 300,000 inhabitants. It is located on a beach, but it lacks a pier and crane to lift and lower their forty wooden artisanal boats with outboard motors, so fishers have to push them into the sea and pull them back out again every time, which causes health problems. The impressive *caleta* building on the beach was constructed with State help without much cost to the association. The urban and beach setting gives the fishers ready access to markets as well as electricity, piped water and a sewage system, but the

urban bay setting also entails greater water contamination. The vast majority of fishers live near the *caleta* on the other side of the beach road in humble houses, compared to the fancy summer resorts near them. Living in proximity to each other, families can help fishers when necessary. To earn extra incomes, several fishers rent their front houses during the tourist season (2–3 months per year) and some run small home-based restaurants.

Although fishers were advised in 1994 to harvest a maximum of 175 kilos *machos* per boat, they exceeded that limit, which led to species scarcity that worsened with the 1997 heavy rains. The *macha* banks collapsed and many fishers, pressured by middlemen and attracted by business opportunities, migrated temporarily to southern Chile to fish with their boats (FIRA 2000) – a common livelihood strategy among fishers before the TURFs were implemented. Peñuelas now extracts *machos* only three days a week – a self-imposed limit for conservation. “We are the ones responsible for the resource,” ex-president Guzmán stated (Interview 11-24-2008). The daily *macha* quota is set in relation to buyer's orders and distributed among fishers according to a system of quotas in relation to labor demand. If all fishers are needed, all go; if demand is low, just some go. Fishers decide with their crew if they go or if another boat takes their quota – or two crews gather in one boat. The next day they change roles, saving both efforts and fuel. While divers put on wet suits, others prepare the boats, dragging them into the water in groups, even dogs help with their bare teeth! Elderly members guard the *caleta* during the day, and a paid watchman works at night.

The average monthly *macha* income in Peñuelas from 2002 to 2008 was 100,000 pesos (L\$5480), complemented by non-MA fishing activities of 250,000 pesos (L\$5413), yielding an average monthly income of 350,000 pesos (almost L\$900). The regional average for fishers is 311,545 pesos (INE 2010). The Peñuelas MA is not only innovative, but also institutionally well-functioning. It has a generous attitude towards other fisher organizations – sharing their resources with three of them – and a well-developed internal social welfare system that helps fishers' families as well as the community. Peñuelas' social welfare includes support for elderly, widows and fatherless children, social activities (local school, women's football, sports club for children), medical costs, and in connection to important occasions (children's school equipment, Independence Day, and Christmas).

Peñuelas' special ways of organizing the fishing, marketing and system of shared responsibilities have attracted attention and invitations to speak in southern Chile and Peru.

Punta de Choros

Punta de Choros association in La Higuera municipality has two MAs: Punta de Choros and Isla Choros, with a total of 1,000 hectares, 160 male members and 83 privately owned wooden artisanal boats with outboard motors. Although the two *caletas* that the association administer are rural, they have a good infrastructure with a small dock, electricity and running water (though not a sewage system). The *caletas* have some restaurants and lodgings resulting from the latest years' tourism

² Based on the *Indicador Global de Rendimiento Socioeconómico* (IGRS), the global indicator, scaling from 0 to 1, measures socioeconomic performance of the MAs, including institutional performance, social and economic aspects.

development.³ The organization is headed by a board, and like Peñuelas it has a number of commissions taking care of MA operations. Here, too, the internal social welfare system is generous: it includes support for bank and domestic loans, support for funerals, widows/partners of members, occupational diseases, medical recipes, dental costs, sports and recreation.

The MA mostly catches the loco, extracted by divers at 25 meters below the surface. Because loco management had positive results, they have also started fishing lapas (keyhole limpet), sea urchins and clams. The extraction of locos here reaches levels hardly ever reached elsewhere. This privilege has allowed Punta de Choros to diversify their activities with local ecotourism and embryonic small oyster aquaculture for local gastronomy. The organization has bought 30 fibre boats for tourism, driven by less-contaminating gas, which attracts 25,000 tourists during the high season (Interview Avilez 2008-11-24). The association's strong economic base has, with State support, also allowed it to acquire their own factory to process their resources. Run within a recently formed cooperative, the factory provisionally employs seventeen fishers from Coquimbo to remove the shells professionally and eight local women, being taught by the Coquimbo fishers how to do this job without damaging the oyster. The long-term plan is to hire fishers' families and create additional jobs in the community.

Avilez links the strong performance of his organization with an internal discipline to protect the long-term equilibrium of the ecosystem. "We think the levels [of resources] are sustainable," he said (Interview Avilez 2011-08-19). However, he worries that the association lacks enough people who are ready to take on leadership. People are afraid of failing, he adds.

Fishers in Punta de Choros are thriving. Out of the 160 members, 100 have their own cars, and about 70 percent own their own houses – many of them several in various places. "That shows how well we do," Avilez says. Avilez is also the vice president of a regional fisher federation and one of six chosen councillors under the mayor in La Higuera municipality. That he has become a member of the establishment has facilitated the *culetras* getting electricity and other modern equipment. The La Higuera municipality has also attracted 181.482 million pesos (US\$150,000), based on the yearly average exchange rate) in funds for new infrastructure, equipment, research and development, more than any of the other six municipalities in the region (Sernapesc 2008).

The average monthly income from locos and lapas (the main target species) for an MA fisher in Punta de Choros from 2000 to 2007 was 157,500 pesos (US\$252), with a medium catch of 320,000 units. Including also the incomes from sea urchins, clams and tourism, the total monthly income for a Punta de Choros fisher was 777,100 pesos (US\$1,243), even higher than in Peñuelas. Looking only at loco extraction in 2008, it was as high as 740,000 units. During 2010-2011 it was even higher – at its highest peak ever – on 1,270,000 units!

Economic-institutional-conservation as an upward spiral

For fishers, the shift from open access to use rights, and from individualism and rivalry to organized and participative collectivism achieved through the TURF system, have brought many favourable changes. The TURF system has strengthened and empowered fishers locally, regionally, nationally and internationally. Fishers now have regular interactions with researchers, officials and international actors, something totally new in fishers' lives. In the better off MAs they also initiate new diversified commercial ventures, and attract new investments for their villages or municipalities.

Peñuelas and Punta de Choros are MAs that are doing well economically, institutionally and, it would seem, also in term of conservation. International partners admire the leadership of these two MAs and point to them as good models for how to manage threatened coastal resources.

There seems to be a strong relationship between resource abundance, economic performance and institutional performance, which in turn can escalate in a continuous and repetitive process of diversification, self-empowerment, and ecological conservation. Peñuelas and Punta de Choros show the positive aspects that collective action can bring. The analyzed cases first and foremost show that human agency in the form of capable leadership and institutional skills are the key forces behind successful MAs. Therefore, there is hope for those MAs that are (still) performing poorly: granted there are resources and a market demand, much depends on the fishers themselves. However, the State also has an important role in building capacity and trust, and in helping less successful MAs emulate the more successful ones, thus fostering a process where MA organizations start strengthening each other.

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Community Based Forest and Livelihood Management in Nepal

By Shrikrishna Upadhyay

The reintroduction of a multiparty system in Nepal in 1990 after the peaceful revolution against the autocratic Monarchical Panchayat regime¹ provided political space for communities to get organized and manage common pool resources, including water and forest. The state established new policies and funding mechanisms to support the evolution of new types of grassroots based, self-governing institutions. The strategy increased from the self-governance movement initiated in a powerful expansion of community forests in Nepal, which had directly benefited about 1.7 million households, or about 32 percent of the population organized into 16,000 community forestry user groups (CFUGs) that manage 1.2 million hectares of land, or about one fourth of Nepal's forested areas.

History of community forestry

Until their nationalization in 1957, forests belonged to the people. However, it was difficult if not impossible for the government to manage vast tracts of nationalized forests because it lacked any forest administration and it could not easily oversee remote and isolated rural areas. Communities therefore pressured the government to let them take control of forests, particularly in the hills. In 1978 this pressure led to a new forest regulation that transferred the management of some of the forests to local bodies, namely Panchayats. Despite this law, however, only 48,541 hectares of forests had been handed over by 1986.

The government recognized the need for active citizen participation in the design process for natural resource management by formally including community organizations in the government's eighth Five Year Plan (1992-1997) for effective delivery of public goods and services. The Forestry Act of 1993 and additional forest regulations in 1995 provided authority to (CFUGs) to manage forests. While the state retained ownership of the forests, it gave community groups the right to manage their forests.

1 | Editors note: Panchayats were the lowest unit of the single-party political system designed to protect the absolute monarchy, which lasted for almost thirty years, until 1990.

Right to Self Governance

1. CFUGs can elect, select or change their executive committee at any time.

2. CFUGs can elect, select or change their executive committee at any time.

3. CFUGs can elect, select or change their executive committee at any time.

4. CFUGs can elect, select or change their executive committee at any time.

5. CFUGs can sanction members for breaking the rules.

6. CFUGs can amend or revise their constitution any time.

Right to Forest Management and Utilization

1. There is no limit to the forest area that can be handed over to communities. CFUGs are authorized to:

2. Make optimum use of the forest area for the purpose of forest crops.

3. Make optimum use of the forest area for the purpose of forest crops.

4. Utilize funds for any purpose, but the proceeds must be spent on forest development.

5. Invest in any area, persons and development activities according to the decision of the community.

6. Set up business enterprises and make profits.

7. Seek support from any organization.

8. Invest in any area, persons and development activities according to the decision of the community.

9. Invest in any area, persons and development activities according to the decision of the community.

More sustainable livelihoods through community forestry

Community management of Nepalese forests has resulted in many ecological and economic benefits including increased crown cover and higher productivity. A recent study reported that 74 percent of the forest areas managed by the CFUGs was in "good" condition compared to 19 percent in "degraded" condition. Others have reported that CFUGs compare favorably to state forests in terms of changes in forest condition (Nagendra et al. 2008).

The impact of community forestry has fueled the production of wood, timber, fodder and other materials for timber, forest products, NTFP, while increasing forest cover and protecting the watershed, resulting in higher discharges of water.

In addition, the revenue generated by the CFUGs has been used for financing microenterprises operated by poorer users and for village infrastructure projects. In some cases land-poor segments of the community have cultivated NTFP and other forest products. In other cases CFUGs have started forestry-related communitarian enterprises such as a plant to process medicinal herbs.

According to a study on impact on livelihoods (Ojha and Chhatre 2009) community forestry has had a positive impact on livelihoods and food security. Moreover, a longitudinal five-year study covering 2,700 households from 26 CFUGs in the Koshi Hills showed large-scale improvements on people's livelihoods and food security. It showed that 46 percent of the poor users improved their economic situations and long-term capacities due to their participation in CFUGs. A separate study found that the annual household income of forest users increased by 113 percent over a period of 2003-2008, from Nepalese Rupees (NRs) 34,995 in 2003 to NRs 117,073 in 2008 (US\$710 to \$1,512). This represents a 61 percent increase after adjusting for inflation.

The importance of forests as reservoirs to preserve water is often overlooked. Yet that is where the linkage between forests, agriculture and improved quality of life is really noticeable. It is therefore important to foster a holistic, integrated multi-sectoral approach to natural resource management as the best way to improve the quality of livelihoods especially for the poor. Participatory action research (PAR) involving primary stakeholders is an essential part of this management model because community groups can build their capacities for self-governance only if they can build trust and reciprocity and enhance their ability to resolve inevitable problems and conflicts.

Finally, CFUGs that effectively manage their forests have been able to provide carbon sequestration and environmental services, including the provision of higher-quality water to downstream communities. Under Reducing Emissions from Deforestation and Degradation (REDD), an effort is made to quantify such gains so that a proper compensatory mechanism can be made to reward CFUGs according to their contribution in improving the environment. A community Forestry Fund can help in regenerating forests and creating livelihood opportunities for users. The resources generated from carbon trading and environmental services can be placed into the fund.

As this account suggests, CFUGs could become a vanguard innovator for improved natural resource management in Nepal, building on the energies released by the communitarian movement since 1990. The constitution of CFUGs has provisions for intervening to improve the livelihoods of the poor.

CFUGs By laws That Help the Poor

- **Free access** to state forest products
- **Reservation** of community forest shares for poor women and Dalits (lower castes) and participation of Dalits in forest management
- **Special provisions** for allocation of state forest products to vulnerable groups (for example, women, disabled persons, persons affected by natural disasters, conflict victims)
- **Allocation** of CFUG funds at low interest rate for income-generating activities
- **Allocations** of community forestry land to poor users
- **Scholarships** to children from poor families

The challenges of community forestry in Terai

In Terai, a very dry region in Southern Nepal, the forest cover is being depleted by farming in both the hills and the Indian part of the fertile Gangetic plain. Terai is home to people of Indian origin, an indigenous population called Tharus and people who migrated from hills. This mix of people of different communities makes collective action more difficult. Even though the state owns large blocks of forests, it cannot monitor and enforce usage, and so the forests are essentially open-access areas that anyone can use, especially in the North along the Churia and Shivalik mountain range. Most of the deforestation has occurred in state forests that have considerable quantities of hard wood of high commercial value. Saving Terai forests is important because it will control river erosion and diminish the chances of flooding in Nepal and Northern India.

Community forestry offers a different, more positive model than conventional approaches. It is concentrated in a few areas where village communities are strong because of traditional bonds of trust and reciprocity due to people's similar ethnic backgrounds. Saving the Terai forest would require new incentive mechanisms for jointly involving people in the management of state forests and helping those people who must be excluded from the forest to find alternative energy sources to substitute for firewood. A coordinated effort among forest agencies, local people, local bodies and other stakeholders will be required to turn the tide of forest destruction in Terai, which currently runs at a rate of 1 percent per year.

The federated organization of forestry user groups

As the number of community forest user groups grows, however, it is raising complex problems that need to be addressed. CFUGs need stronger legislative and policy support, for example. This is difficult to achieve, however, because frequent changes in government and other political instability often result in policy changes that interfere with CFUGs' forest management and disrupt the continuity of planning. More generally, the political establishment has not always been supportive of the community model of forest management.

To address some of these concerns, the Federation of Community Forestry User Groups (FECOFON) was set up in 1995 to protect the interests of community forestry groups and to enable a more hospitable policy environment. The Federation organizes exchange programs between various stakeholders and, in the face of anti-CFUG policies or actions, it organizes protest rallies to petition the government for change. In addition, the Federation represents the interests of community forests in international organizations and seeks to advance the global agenda of the community forestry movement. At the same time, it provides operational support to various community forestry user groups in their villages.

Promotion of renewable energy

The favorable institutional and policy environment created by the government as well as a new energy program have made alternative energy sources very popular in rural areas. Due to several donor-funded programs, the use of several technologies such as biogas, improved cook stoves, solar and micro-hydro has expanded. Thanks to subsidies and other support systems, several hundred thousand biogas and cook stoves have been installed, which has considerably reduced pressures on forests for wood fuel. Fuel costs for users have also gone down. With carbon trading mechanisms in place, some technologies such as biogas and micro-hydro have now entered into carbon markets and can expect stable and sustainable financial support in the future.

The need for institutional innovation

The rise of multiparty democracy in 1990 has increased citizen participation and institutional pluralism in all walks of life. Bottom-up initiatives have spurred several types of self-governing institutions for natural resource management, infrastructure, education, health and microfinance. In many instances the State has been instrumental in providing policy and legislative support to encourage such initiatives at the grassroots level. For example, the state has created autonomous structures to fund and support grassroots-based initiatives, such as the Poverty Alleviation Fund (PAF), which was set up in 2004 with financial assistance from the World Bank. PAF has mobilized 14,000 community groups covering 500,000 poor households in the remote districts of Nepal to undertake activities that increase household income, build infrastructure, develop alternative energy systems and build community capacity. Community forestry has reached such a

broad base that it needs to create a community forestry support fund that will focus on integrated natural management at the level of micro-watersheds. Such an autonomous fund could be shared between government and community forestry user groups in proportion to their contributions to carbon sequestration. The funds could come from forest revenues, income from provision for environmental services and carbon trading incomes.

The way forward

The record of CFUGs shows clearly that improved management of forests through community participation has the greatest benefits for the poor. We therefore need to move away from a conservation-based model to one that promotes sustainable livelihoods and focuses on food security, good nutrition, and improving quality of life of the poor. This is what we at Support for Poor Producers of Nepal (SAPPROS) are focusing on: participatory action research that can integrate management of land, forest and water at the community level. Farmers, users and beneficiary households all enable us to develop indicators of effectiveness, monitor progress and make improvements over time.

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Introduction: An Encounter at the Pink Lake

Suke Helfrich. On February 2011, I visited the Pink Lake, located about one-and-a-half hours' drive from the capital, Dakar, together with another participant of the World Social Forum in Dakar. I remember that on the way to the lake, we were carrying heavy chests filled with salt on their heads to unload it on the shores. We had no clue how salt digging actually works, but a young Senegalese guide had made us curious to learn more. *Aigora Ndaye*, a native from Niaga, a small village near the Pink Lake, explained more about it:

My grandfather was fishing here. But there are no fish anymore. Today, everybody can exploit the salt.

What do you mean "everybody"?

Well, just everybody. The lake is public and everybody is allowed to buy or rent a boat and start working.

Everybody, even strangers?

Yes, and they are not obliged to pay taxes either. This is a public lake and everybody has open access to its resources.

And there is no problem of "overuse"?

No... I guess because there is discipline and sincerity.

Really?

We became more and more curious, and decided to sit down and talk to understand the situation. We talked for three hours and finally found out why indeed there is no overuse. But it took us several attempts to clarify and cross-check our understanding with *Aigora Ndaye*. We were never really satisfied with his responses to the "overuse-question" and this was because the answer seemed so self-evident to *Aigora* that he did not quite seem to understand why he should try to explain such basic things. He finally did, by accident. And the answer was simplicity itself:

Back in Germany, I invited Pupa Sow and Elina Marmer to write about the artisanal collection of salt at the Lac Rose and explain why the overuse-answer is perhaps not that simple after all...

Salt and Trade at the Pink Lake: Community Subsistence in Senegal

By Papa Sow and Euna Marmer

In the last few years, both in academic circles and in the civil society, several authors (Bejjani 1984, Putnam 2000, Etzioni 2004, Larmité et al. 2008) have expressed support for the restoration of community as a new form of social integration. In Africa, where some public institutions tend to be weak, this quest and the social and political contestations occur mostly at the community level. Communities are mobilized to become custodians of their environment (Schiffman et al. 2011) and there is a revitalization of initiatives for local development.

In this essay, we look at the case of the “salt collectors” of the Pink Lake, also called Lake Retba or Lac Rose, in the rural area of Dakar, Senegal, and the development of communities’ sustenance. It is based on previous publications by Papa Sow (2004), which analyzed the common uses of the lake’s resources.

The Pink Lake might be best known for being the former finishing point of the Dakar Rally. The lake is located between white dunes and the seaside in the northeast of Dakar in the rural area. It is fed by groundwater and receives a large supply of Sangalkam village backwater and the dry lakes of Thor and Yandal in the neighboring province of Thiès during the rainy season. Yet it is struck by a fragile ecological balance. With a depth of only three meters, the lake is quite flat and the salt concentration of 380 grams/liter is higher than that of the Dead Sea (340g/l). In 1990, the area of the Pink Lake was estimated to be four square kilometers. In 2005 it had shrunk dramatically to about three square kilometers.

The Lake has been on the UNESCO World Heritage Tentative List since 2005 because of its unique pink color. Some scholars argue that the symbiosis of the dune reflection, high magnesium chloride content and a bacterial carotenoid¹ give the kind of red, pink or orange pigmentation (M. Baye 1989).

In the 1970s, in response to persistent droughts and extremely harsh conditions, began to extract and sell salt from the lake in a self-organized way, initially to supply their own families (Sow 2004). An estimated 5,000 people are now working and networking around the lake. Their livelihoods depend on the lake and

their rights represented by the local authorities cannot possibly rely through employment policies.

The “salt diggers” have divided the lake into four adjacent sections: Khaar Yaala, Khoss, Virage and Daradjit, which is where most economic activity occurs. “Can the salt diggers in the Pink Lake be described as ‘commoners’?” the editors of this book asked us.

Artisanal techniques and self-organization

Salt collection techniques practiced at the Pink Lake differ from various traditional and modern practices in Senegal (Sow 2004). To collect the product, salt diggers and porters step chest high in the water. The tools they use are simple: basins, sieves, shovels and spades, canoes with paddles called “mousse.” The canoes are usually leased from wood traders and transferred to the extractors’ ownership, who pay them either in-kind (five to six bowls of salt a day) or in cash. A new factory-made canoe costs 120,000–130,000 CFA (about US\$250 in 2012). Salt diggers earn about 10,000 CFA/day (about US\$20).

The diggers leave a part of the lake dormant for six months so the salt can regenerate. Areas of digging are then changed twice a year, generally in April and October. Machines and engines are not permitted for harvesting.

Extractors come from different backgrounds and social status, but generally they are peasants and harvesters who have abandoned their seasonal agricultural activities to dedicate themselves to salt digging. Most of the time, this job is a short-term activity used to earn money to migrate to Dakar or other West African countries to set up a business, and even to Europe. Tasks are divided among men, women and girls. Extractors are mainly men who dig the salt with large sticks and fill the boats. Women unload the heavy, wet, black salt from the boats. Young girls sell crafts on the shore and at nearby bungalows and hotels. Some men, called “Kola-kola,” buy the dried, now-grey or white salt after it has been iodized. Beside locals, other diggers include migrants from the Diourbel region of Senegal and from Guinea-Bissau and Mali.

The Management Committee (MC), composed of 18 members of the five surrounding villages, was founded in 1994. It organizes the salt-extraction and commercialization, and aims to improve these activities by organizing collective actions. Each member is elected by its village organization (of different backgrounds and types) to represent its interests; a variety of local organizations also take part. Every three months, the Committee holds a general meeting where the activities are evaluated and new decisions are made. All Committee members get compensation for their commitment (the President and the Secretary General seem to be better paid). Although women play an important role at the site, they do not hold any positions in the MC.

The MC is involved in outreach activities, including salt iodization in partnership with the World Food Programme (WFP), UNICEF and NGOs from Senegal and abroad as well as with the state ministries for the environment,

1) Editors' note: Carotenoids are tetraterpeneoid organic pigments that are responsible for the pink color of the lake. For more information, see <http://en.wikipedia.org/wiki/Carotenoid>.

commerce, health, industry, etc. The Committee lobbies to help salt diggers to know their rights and can sometimes exert pressure on local authorities.

According to this Committee, salt production was estimated to be 30,000–60,000 tons in 2011. The production peak is during the dry season, and drops off during the rainy season (*hiwernage*). The quality of salt varies throughout the year, with the best, coarse salt harvested in June–July. Over 70 percent of the salt is exported to Ivory Coast, with the rest sold to Mali, Benin, Burkina Faso, Guinea Bissau, Guinea Conakry, Congo Brazzaville, São Tomé, and also to Europe, where it is used to de-ice roads in winter. In 2011, the price of salt was 25–30 CFA per kilo. The MC, which did not wish to disclose the details, receives a kind of tax from the buyers/traders for each ton of salt sold.

Since none of the salt extraction companies provide paper pay stubs, workers' rights are constantly violated. There are no guaranteed wages, contracts or other legal agreements between employers and workers. In this context of conflict and simmering tensions that neither the State nor local governments can address, the MC was born to oversee and regulate the economic and social activities around the lake. The MC provides a kind of inter-local solidarity among migrants and other vulnerable, economically disadvantaged workers while also socializing the risks linked to the hard work of salt extraction. According to the MC, there is a common fund in which each salt digger contributes an amount of money and can take a portion as needed in case of disaster or accident. Here we see a "forced transfer" of responsibility from the State to the Committee for "risk coverage" related to employment. Although the Committee has managed to downplay the problems, it must be recognized that the responsibilities that it has endorsed generate new social and political uncertainties, some of which are described below.

Environmental uncertainties and conflict management

Land control and regulations. There is much confusion about land tenure at the Lake (Traoré 1997). The Lake is officially recognized and classified as a mine by the State of Senegal, but the State does not collect royalties on its use. Taxes are only collected from hotels, tourism and art and craft vendors. A number of laws since the 1970s has transferred power to local authorities, increasing their responsibilities over natural resources and the countryside. This decentralization of authority has given rural communities autonomous spaces for their own initiatives for both public and private actors. Booming construction and urbanization around the lake have interfered with water runoff, and shells from the lake used in construction and industry have also caused ecological harm. The man-made degradation of the environment and the risks that this represents for salt diggers attract little attention. However, local authorities in cooperation with the state are working on the establishment of a "green curtain" to prevent the silting of the lake by planting trees on the adjacent dunes.

Health problems and "debauchery." Despite the use of Shea butter to protect their skin, salt collectors complain about various skin problems. According to beliefs, rheumatoid arthritis can be treated by bathing in the Lake. Local lothies and traders

have not yet found opportunities to use such healing properties commercially (as some European countries and Israel have) by offering medical bath therapies.

With the salt production boom, much banditry and "debauchery" suddenly appeared. One of the most wanted fugitive companions of "Ino," a famous Senegalese gangster, was arrested at the site while working secretly as a salt "collector" two years after being accused of a 1994 murder. The MC appealed to remove what they called "unhealthy places," to prevent crime. In 2004, local authorities ordered a "clean up" of Pink Lake. The main reason given for eviction was the construction of new rental homes around the lake. So it was somehow "hunting poverty a step further." Bulldozers came and destroyed the "village of the harvesters" – the temporary settlement of the workers who used to camp on the site – and authorities made them move to surrounding villages and let them come to the Lake only to work.

Protection of the integrity of the salt diggers

Senegalese labor regulations are inadequate for protecting property and individuals, so salt diggers at the Pink Lake must provide their own security. Workers themselves have set up checks and penalties for failures to adhere to regulations and local norms, but the legal or juridical scope is quite limited, so sanctions are applied only to existing normative or customary obligations.

The credibility of the system set up by the Committee (and by extension the salt diggers) is based on the regular inspection of conditions of work activities, the strong support by all stakeholders (Rural Council, organizations of the surrounding villages, salt diggers, etc.) and their ability to report breaches. One of the main indicators of the effectiveness of collective action is the ability to lower litigation and conflicts brought in front of what seems to be actually the only "legal" and "recognized" authority: the MC. Some examples of conflict resolutions: If somebody is accused of robbery and the crime is proved, the MC sanctions that person by excluding them from working on the site for six months. If somebody is caught in battle or serious dispute he or she may pay 5,000 CFA and be excluded for three months.

Conclusion

The salt diggers are serious about environmental responsibility in their work and the Management Committee representing them imposes strict measures to prevent overuse of the lake. These measures include icy harvesting (seasonal regeneration) and prohibition of engine use for salt harvesting. However, no studies have been done to evaluate the efficiency of this approach, and there is no information on regulations of the number of the diggers. Also, hydrological and geological data of the lake have not been analyzed. Yet evidence of manmade environmental degradation, climate change and other threats at Pink Lake clearly exist. The precise causes and magnitude, however, have yet to be established.

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El Buen Vivir and the Commons

A Conversation Between Gustavo Soto Santiesteban and Silke Helfrich

Gustavo Soto Santiesteban is a writer, semiotician and consultant on indigenous rights at various universities in Bolivia.

Silke Helfrich: Gustavo, Buen Vivir (or Vivir Bien) is an expression that has made its way into the constitutions of Ecuador and Bolivia, and has become an expression that would summarize an alternative project for civilization. Portuguese sociologist Boaventura da Sousa even took up the slogan, "China or Sumaj K'usay," which is not self-explanatory. Can you help explain it?

Gustavo Soto: Suma Qamala, Sumaj K'usay and Sumak K'usay are Aymara and Quechua expressions that translate into Spanish as *Buen Vivir/Vivir Bien*. They are reused in the construction of a discourse that speaks of a horizon of purposes alternative to the current state of affairs, one that is neither "21st century socialism" nor "Andean-Amazonian capitalism."¹ I think *Buen Vivir* is a proposal aimed at making visible and expressible aspects of reality that are ignored by the dominant paradigm. It is a proposal from a radical and spiritual perspective of ecology, and is logically incompatible with development and industrialization. It speaks of the possibility of living in common – for which the very concept "development" is not only insufficient but mistaken.

Javier Medina – a philosopher dedicated to Andean studies, writes: "There is always more in reality than one can experience or express at any given moment. A greater sensitivity to the latent potential of situations, assumed as a sort of broader social paradigm, may encourage us to think about things not only as they are, in the Newtonian paradigm, but also in terms of where they are heading, what they may become" (quoted in Soto 2010). *El Buen Vivir/Vivir Bien* is the name given to something that is like a new principle of hope grounded in ancestral practices of indigenous communities in the Americas.

1 | Boaventura da Sousa Santos: "Diversidades y cambios civilizatorios. ¿la utopía del siglo XXI?" FEDAEPS-FSM Belem, 2009.

2 | Editors' note: "21st century socialism" is a political expression that gained currency ten years ago in the context of the Bolivian Revolution, and was later adopted in Venezuela by the administration of President Hugo Chavez.

3 | Alvaro García L., interview with Miguel Lora, www.bolpress.com, May 10, 2009.

4 | See Vinod Raina's essay criticizing the concept of "development" on pp. 166–171.

Helfrich: So, it is not surprising that Bolivia and Ecuador are the two countries where the debate on *el Buen Vivir* is most alive. In Ecuador, 35 percent of the population self-identify as indigenous, and in Bolivia, 62 percent. In a take on the topic, Bolivia's ambassador in Germany Walter Prudencio Magne Veliz, his country's first indigenous ambassador, said, "An indigenous person thinks more like a 'we' than as an individual 'I'." What does that "we" encompass?

Soto: *Suma Qamata* implies several meanings manifested in community life: the fact of animals, persons, and crops living together; living with Pachamama ("Mother Earth" – the water, the mountains, the biosphere) and finally living together with the community of ancestors (*waka*). It is a community practice that finds organizational expression in the *ayllu*, which articulates this "economy-life" in the *chacra* – the rural agricultural space where reciprocity predominates. It is evident that these enunciations are made from the commons: from the community from the first person plural, and not from "me," from the individual. Strictly speaking, the "individual," without community is bereft, orphaned, incomplete.

Helfrich: We find these ideas in many different cultures. It is not just one or the other. Things are not separate, but interrelated. Therefore, Javier Medina, a Bolivian philosopher who is one of the most literate interpreters of the idea of *Buen Vivir*, says it is a display of intelligence that "we Bolivians want to have the State and also want to have the *ayllu*, though they are two antagonistic magnitudes..." And he continues: "Our problem is that in not picking up on the civilizing nature of both, we confuse them, provoking the inefficiency of both..." At this point... let's not have any more real State: so low the liberal Third World simulation, nor more real *Ayllur* in their place, docile social movements." In your opinion, does the *ayllu* persist in contemporary Bolivia? Do they have like a "physical-social embodiment"?

Soto: The indigenous *ayllu*, at the "micro-level," at the local level, persists in the Bolivian altiplano. It is founded on reciprocity more than on the market, on cultural identity more than on homogenization, on decision by assembly more than the electoral mechanism, on its *de facto* autonomy and its relationship with the "territory," which is not the "land" – factor of production – but rather precisely the totality of the system of relationships.

Helfrich: Your description of the *ayllu* is reminiscent of the concept of *commoning* which is discussed so much in this book and which expresses much better than the term *commons* where the heartbeat of the debate lies. Both *el Buen Vivir* and *commoning* can only be thought of in their specific social context and as a social process. Indeed, it seems to me that both are more systems of production in community and at the same time they produce community.

Soto: Yes, the *ayllu* is much more than a "unit of production". It is a system of community life which, if you will, "produces" community first. This has been possible precisely because the successive projects of the nation-state have, relatively speaking, failed to assimilate them.

Helfrich: In essence, what's the difference between the Andean conception of *el Buen Vivir* and Western thinking?

Soto: Medina situates it in a schema which of course generalizes and is disjunctive, thus it is far from being an adequate case of complex thinking; it is like a map, which should never be confused with what happens in the territory itself. Between the poles there is obviously a long continuum.

Western	Andean Thinking
Individualism	Collectivism
Capitalism	Reciprocity
Market	Community
State	Assembly
Law	Custom
Technology	Tradition
Progress	Balance
Development	Well-being
Globalization	Localization

Helfrich: *Homo mayeuticus*?

Soto: It refers to that way of living engaged in dialogue with the complex system of relations that is Nature. Nature is conceived of as a living being and not as a thing of which to make other things, and so it demands great interpretive skills. The interpretations are transmitted through oral expression, everyday experience, the creativity of textiles, ceramics, musical instruments, festive ritual – in sum, through an integral technical/cultural system.

Helfrich: What is the sociopolitical reality of the country in which this debate is unfolding?

Soto: Even though the new constitution that the State of Bolivia has been printing, that doesn't mean that the practices and meanings described previously will be carried out. To the contrary, the horizon of popular expectations is set forth in the 2010–2015 program of the Movimiento al Socialismo, MAS which won the 2009 elections with 64 percent of the vote. That program continues being redefined, potentialized and extrapolated. It articulates the Bolivian agenda with the global capitalist interests of the 21st century (USA-EU+BRICS) expressed in megaprojects⁶ of energy, road building and extractive industries. This agenda is encapsulated in the IIRSA (Initiative for the Integration of the Regional

5 | <http://lareciprocidad.blogspot.com>

6 | See Gerhard Dilger's essay on the Belo Monte mining operation, on pp. 174–177.

PART FOUR

**KNOWLEDGE COMMONS
FOR SOCIAL CHANGE**

[illegible]
$$N_{\text{eff}} = 10.75 \pm 0.17 \quad (0.05 \leq z \leq 11.5)$$

The Code is the Seed of the Software

An Interview with Adriana Sanchez by Silke Helfrich

Helfrich: Adriana, could you briefly introduce yourself?

Sanchez: My name is Adriana Sánchez. I am from southern Costa Rica, a very beautiful territory, which has been gradually ravaged by the intensive agriculture of companies such as the United Fruit Company. I studied language and literature at a school managed by the national government, where we were taught to share knowledge with the government, technology and society. We support social and solidarity enterprises. This enterprise is called Sula Batsú, a name in the Bribri language that means "creative spirit." I also work voluntarily in the Cultura Libre de Costa Rica community, which brings together artists, developers of free software, farmers, and persons who believe in the importance of sharing knowledge.

Helfrich: In other words, you are farmers and programmers who share the same space?

Sanchez: All of us persons in a social formation – be it a country, a community, or a work team, share interests and a sociocultural heritage. Cultura Libre de Costa Rica hosts a forum in which creators of culture from different sectors who share this heritage can sit down to discuss, reflect, and collectively construct new ways of distributing and protecting their works. Partnerships are created which for many people may be unexpected, but in our case they are the reason for our work: both the software developer and the farmer are bearers of a culture and knowledge that are beneficial to their entire communities, and as such they not only have the right but the duty to reflect on the social change that their activities can generate.

Helfrich: What do software and seeds have in common?

Sanchez: The seed is the germ of life. From it is derived food, clothing, shelter – in short, well-being. It is a small repository that contains centuries of history and knowledge. I've always liked the comparison between free software and seed because it helps us better understand the principle of liberty. If we restrict access to knowledge – independent of whether it is knowledge of how to farm or how to program – we restrict the capacity to create. When a company patents a seed and manipulates it to remove the genetic information it carries within so that it cannot reproduce alone after the harvest, it is restricting the harvest. Shutting off access to software code keeps other creative persons from being able to contribute their

knowledge to improve it and adapt it to their needs and those of the persons around them.

Hellrich: *Why do people want to improve a software program? Why contribute knowledge in that field? Does that change people's quality of life?*

Sánchez: Well, there's one omnipresent example: the Internet. During the first years of its development, people needed to have in-depth knowledge of software in order to make use of digital tools (websites, applications, repositories). For almost 10 years now, the digital tools available online can be used by the vast majority of people, including those who do not know how to read and write. Access to new end user-friendly technologies around the world is improving their quality of life day by day.

Imagine a woman, a single mother, from a rural area in any country of the South. In those countries, services are centralized in the urban areas and this woman will have to travel several hours, even days, to conduct an administrative transaction. Now let's imagine a rural online center that lets her perform that same transaction through the government agency's website without having to leave her children alone or miss hours or days of work. That is an improvement in quality of life.

Now, let's imagine a rural online center that uses free software and is operated from and by the community. It is not a traditional online center; it's a center where knowledge is not only shared, but is constructed by the people based on their experience and their needs. This is how free software is designed. If we are able to transmit that way of building collectively to other spaces, there is a value-added that no proprietary tool will ever have: the value of belonging, of community, the value of improving all together to lift everyone up, and independent from "market supply." In other words, autonomy.

Software code should be made freely available to that end. And I think the state should promote free software in public institutions and support the initiatives to universalize information and communications technology services, not just because of the low cost, but also because of their security, versatility, and above all their potential to stimulate learning and develop people's capabilities.

Hellrich: *And this value-added, how is it transmitted where you work in southern Costa Rica? What do the small farmers have to say about it?*

Sánchez: In general, promoting free software in these communities is simpler than we might think, for many of the people you work with don't know other operating systems. In addition, developing capacities in the use of Free/Libre/Open Source Software (FLOSS) goes beyond mere technical training. It is highly related to social impact. Working on a farm is not just planting the crops. Farmers need to keep track of spending, inventories, calendars, clients and supplier databases. In that sense,

For example, Sánchez notes that the seeds of the *Golden Rice* are "genetically altered" and that this "alteration" is the germination of the seeds with which we work as "biotechnology." Seeds with this altered genetic makeup can no longer produce new seeds that can be shared and used for the next year's harvest. Instead, farmers must always buy new proprietary seeds each year.

agriculture and software go hand and hand, and one who tills the land can easily appreciate that the community and every community member benefits most if the community as a whole – and not third persons – control its own seed and software.

Based on my experience in this area, I can say that a strict process of developing capacities – as enabled by free software – can mean a substantial change in the life of a person and his or her family. And having tools not encumbered by use restrictions, that are free, and that operate swiftly and effectively on old equipment – which is what one generally finds in the countryside – is always a very attractive possibility.

Hellrich: *What does the idea of the commons contribute to your work?*

Sánchez: At this time, intellectual property laws shut down the flow of knowledge. Knowledge is discussed and generated in "ghettos," where it does not draw on what other persons know. It is so specialized that at the end of the day it doesn't have any day-to-day application. When we work from the perspective of the commons, respecting free access to knowledge and promoting the notion that all people should be able to share in what is known, knowledge is made horizontal. In other words, the farmer's knowledge is as valuable as the software developer's, both benefit the lives of others. When we become empowered through the value we accord to what we know, we can more reflexively access our resources and our rights. This improves our livelihoods.

Hellrich: *Can you give me a specific example?*

Sánchez: Oftentimes, especially in the North, local knowledge is understood as limited in scope. It applies in rural areas, for example, or it applies to poor people. Local knowledge is not that; it is what is generated in a locality, and this may be my office, my school, my orchard, or my hackerspace. In these spaces, we constantly build on what has been transmitted to us. We transform that knowledge into any number of tools that enable us to improve our quality of life.

A group of people are working in agriculture and producing organic foods in northern Costa Rica. They have a project for the preservation of creole seeds. Since 2008, they have been selling processed products, such as crackers and flour. They make them in solar ovens that they themselves designed to tap this form of energy, which we usually fail to use. This group is thinking about sharing the instructions for building ovens with persons from other parts of the country, so they can use them for their own benefit. Open licenses such as those used by the free software community² have seemed to them a good option precisely because they make it possible to share them on the condition that knowledge goes rather than that it will be protected from the big companies that devour local knowledge and then patent it for their own profit.

Although licenses like the Creative Commons licenses³ were designed to protect digital works, they also work for many other processes and creations. They

2) See also Christian Sickler's essay on commons-based peer production on pp. 289–294 and Benjamin Mako Hill's essay on free software on pp. 305–308.

3) See also Mike Linksvayer's essay on Creative Commons licenses on pp. 294–304.

help guarantee that such works are kept within the public sphere, so that that which has always been ours will continue to be ours.

Hellrich: *Thank you so much, it was*

Adriana Sanchez (Costa Rica) is a philologist. She is also a practitioner in the field of social uses of ICTs. Working at Sula Status R.L., she is part of the "Cultura Libre CR" group, a meeting point of academics, artists, FOSS developers, producers, farmers and other cultural managers from the country, promoted by Creative Commons.

The Boom of Commons-Based Peer Production

by Christian Siefkes

In 1991, an undergraduate Finnish computer science student, Linus Torvalds, had a surprising idea: he began to write a new operating system on his PC. His initial goal was to be able to try some things that weren't possible with the operating systems then available to him. After several months of tinkering, Torvalds noted that he had developed a system that could be useful for others too. He announced his work on the Internet and asked for feedback about features that people would like to see. Some weeks later, he put the software online. Now anybody could download and use his code. It was also possible to adapt it to better fit your needs, if you knew how to program.

The software was met with enormous interest, since the operating systems available at that time offered limited possibilities or were very expensive. And they were developed in companies that normal users couldn't influence. That someone used the Internet to develop an OS, explicitly inviting people to join his efforts and freely sharing the results, was unheard of. Only two years later, more than 100 people were helping develop the software now called *Linux* (a wordplay on "Linus" and "Unix"). Richard Stallman's GNU Project was another initiative that had already developed a number of useful system components. The combination of the GNU tools with the Linux kernel resulted in an operating system that was both useful and free.

Today GNU/Linux is one of the three most popular operating systems (next to Windows and Mac OS), used by millions of people. Linux is most popular with companies that need reliable servers. It is frequently used for high-performance applications – more than 90 percent of the world's 500 fastest supercomputers use Linux.

The success of GNU/Linux is based on the fact that – like all *free software* – it is a commons that everybody can use, improve and share. The freedoms that make free software a commons were first defined by Richard Stallman in the 1980s. He designed the GNU *General Public License* (GPL) as an exemplary license to legally protect these freedoms. The GPL (also used by Linux) remains the most popular free software license.¹ Another crucial factor is the community that coordinates the

1 | See <http://top500.org/stats/hist/57/osfam>

2 | Regarding alternative licenses and their compatibility with each other, see Mike Linksvayer's essay on pp. 299–304.

development of the operating system. The open source tradition is a distinctly chaotic way of working together pioneered by Torvalds and his collaborators became known as the “bazaar” model of software development (Raymond 2001). It contrasts with the top-down hierarchical, meticulously planned “cathedral” style of development, once used for erecting the medieval cathedrals but also characteristic for software development in many companies.

With free software, there is no strict boundary between users and developers. Many participants simply use the software, but some help to improve it, either occasionally or even regularly and intensely. The participants themselves decide whether and how to contribute. Participation is not obligatory, but quite easy if you want to get involved. If you deviate from the customary practices and community guidelines, you risk being “flamed” – others may publicly and harshly point out your inappropriate behavior. That’s the worst that can happen, more severe sanctions such as formal exclusion are very rare.

Commons, contributions and cooperation

The GNU/Linux story reveals the essential characteristics of peer production. Peer production is based on commons – resources and goods that are jointly developed and maintained by a community and shared according to community-defined rules.³ The “four freedoms” are the most important rules that the free software community has given itself: everybody may use free programs for any purpose, adapt them to their needs, share them with others, improve them and distribute the improvements.⁴

The General Public License ensures that these four freedoms are preserved in all future versions of a software program. If I modify and distribute a GPLed software, I must publish my own version under the GPL. This principle is called “copyleft” since it turns copyright on its head. Instead of granting exclusive rights of control and exploitation to the authors, it ensures that all versions of the software will remain in the commons forever.

Peer production provides the capacity to create new commons and maintain and improve the existing ones. Other resources – such as computers – are typically privately owned, but they can be used to contribute to the shared goals of a project, not for financial gain.⁵

While production for the market aims to produce something that can be sold, the usual goal of peer production is to produce something useful. Projects have a common goal, and all participants contribute to that goal in one way or another. They do so because they share the objectives of the project, because they enjoy what they are doing, or because they want to “give back” to the community. This differs

from market production which is based on exchange.⁶

In contrast to companies and entities in planned economies, peer projects don’t have command structures. That does not mean that they are unstructured – on the contrary, most projects have “maintainers” or “admins” who keep the project on course and decide which contributions to integrate and which to reject. However, nobody can order others to do something and nobody is punished by others. The participants are “peers” – they voluntarily cooperate as equals and no one is subordinate to anybody – and they develop rules and best practices together that are most appropriate for their cooperation.

Free culture and open hardware

Meanwhile, countless other projects use an open style of cooperation similar to GNU/Linux. The free encyclopedia Wikipedia is the best known example. Ten years after its inception, there are now Wikipedias in more than 200 languages, the English edition alone has more than three million articles. Linux and Wikipedia are important examples of two communities – the free software movement (also called open source movement) and the free culture movement – that are much larger than their respective flagships. There are hundreds of thousands of free software programs and millions of works (texts, images, music, even movies) published under Creative Commons licenses.⁷

Open hardware projects design physical products by freely sharing blueprints, design documents, and bills of materials.⁸ In the field of electronic hardware, the Italian Arduino project is especially well known. Many other projects use or extend its products. Free furniture designs are created by Ronen Kadushin and by the SketchChair project. The Open Architecture Network and the Architecture for Humanity project design buildings whose purpose is to serve the needs of their inhabitants, rather than making building companies rich or architects famous. OpenWear is a collaborative clothing platform that supports people in becoming producers and finding collaborators. Wireless community networks organize freely accessible wireless networks in many parts of the world. The Open Prosthetics Project develops prosthetic limbs. It was started by a former soldier who had lost a hand in war and was unable to find a commercially available prosthesis suiting his needs. A special goal of the project is to improve the medical treatment of people who cannot afford to pay a lot, e.g. in the Global South.

No production is possible without means of production. The RepRap 3D printer has received a lot of attention because it can “print” many of its own parts. Other free 3D printers are the Fab@Home and the MakerBot, around which a large community has formed. Thingiverse is a platform for sharing 3D designs for such

3 | For an extensive discussion of peer-to-peer production, see Michel Bauwens’ article in this volume on pp. 325–330.

4 | See The GNU Project (2010): The Free Software Definition, <http://www.gnu.org/licenses/gpl.html>.

5 | Commons are often hybrids of private property and public property that co-mingle private and joint use. See for example the essays by Liz Alden Wily (pp. 132–140) and Mayra Lafor Berruzzi (pp. 254–257).

6 | For a detailed discussion of the differences between market logic and the logic of the commons, see Stefan Meretz’s essay (pp. 28–34) and Sike Helfrich’s chart of comparisons (pp. 35–36).

7 | The degrees of freedom granted by the various Creative Commons licenses vary; not all of the licenses assure all “four freedoms” guaranteed by free software. See Mike Linksvayer’s essay on pp. 299–304.

8 | See Benjamin Mako Hill’s essay on “open” versus “free” on pp. 305–308.

printers. Projects such as *FurnLab* and *CubeSpawn* design CNC (computer-controlled) machines for processing wood and metals; their aim is to facilitate “personal fabrication.”⁹¹

The openness of open hardware generally leads to a high number of adaptations and variants, since everyone can participate and contribute their own improvements. Hence, whatever your taste or needs, it's not unlikely to find that some other person with similar preferences has already created a suitable variant and published it online. This enhances the chance of finding solutions for specialized, niche needs neglected by commercial players because the expected profits are too low.

The emergence of community-based infrastructures

You cannot create things from designs and blueprints alone – physical resources and means of production are needed as well. Technological advancements have made various production processes less expensive and more accessible. Today, hobbyists and peer projects can utilize machines they built for themselves or bought inexpensively to produce items whose production would have required capital- and labor-intensive factories just a few decades ago.

Of course, it is neither possible nor reasonable for everyone to have all the equipment necessary for production in his or her own basement. It makes more sense for productive infrastructures to be community based, i.e., jointly organized by the inhabitants of a village or neighborhood. There are already examples of this. For example, the inhabitants of the South African town Scarborough set up a decentralized “mesh network” that allows them to access the Internet and the telephone network. Necessary equipment such as wireless routers are bought by individual citizens. No single person or entity owns the network or large parts of it, and therefore nobody is in a position to shut it down or censor it. The networks run on free software and a large part of the equipment is developed as open hardware.

Community-organized production places are emerging as well. The global *Fab Lab* network spans over 50 cities on five continents. *Fab Labs* are modern open workshops whose goal is to produce “almost anything.” That's not yet realistic, but they can already produce furniture, clothing, computer equipment (including circuit boards), and other useful things. So far, *Fab Labs* mostly employ proprietary machines whose design is not open, making it impossible for people to produce their own versions or to improve them. But parts of the community are trying to overcome this limitation. Their goal is the creation of an entirely commons-based production infrastructure, a network of free and open facilities that utilize only free software and open hardware. This would pave the way to lessening people's dependency on the capitalist market, with commons-based peer production producing more and more of the things that people need.

Two concepts of plenty

But can peer production really get that far in the physical world? Won't it be stopped by the fact that natural resources and the Earth's carrying capacity are limited? It would be impossible to produce and use seven billion cars (one for everybody) – the required gasoline would quickly exhaust the Earth's remaining oil reserves, and the resulting CO₂ emissions would dramatically accelerate global warming (Faber et al. 2008). However, producing bicycles or e-bikes for everyone should be possible without breaking the limits of the Earth's carrying capacity. And it should be equally feasible to produce other things in sufficient quantity that don't require too many resources.

Digital, Internet-based peer production has produced astonishing amounts of software and contents – a digital plenty that benefits us all. In the physical world a similar plenty for everyone must seem impossible if one equates plenty with lavishness and wastefulness. But plenty also has another meaning: “getting what I need, when I need it.”⁹²

Things that are quickly thrown away won't satisfy more needs than things that you keep longer. Commons-based peer production brings such a needs-driven conception of plenty for everyone into reach. It's not things that matter, but needs: the important point is not whether I have a car, but whether I'm able to freely move to other places and interact with other people.

Commons-based peer production won't be able to realize its full potential unless access to resources is managed according to its principles. Digital peer production treats knowledge and software as a commons. Likewise, physical peer production needs to manage resources and means of production as commons, utilizing them in a fair and sustainable way and preserving or improving their current state. For this it is important to find modes that ensure that nobody loses out and that everyone's needs (whether productive or consumptive) are taken seriously.

The challenge is huge, but the unexpected success stories of peer production—such as GNU, Linux and the Wikipedia—show that peer production can achieve a lot. And the long history of the commons contains many examples of the successful long-term usage of natural resources and of the successful management of user-built infrastructures. For the future of commons-based peer production it will be very important to bring together the perspectives and experiences of commoners from all areas – whether “digital,” “ecological,” or “traditional.” They can learn a lot from each other.

91] The author thanks Stefan Moritz for his help in compiling this project collection.

92] On the subject of plenty, see the conversation between Brian Davey, Wolfgang Hoeschle, Roberto Verzola and Stuke Heifrich on pp. 102–110.

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Copyright and Fairy Tales

By Carolina Botero and Julio César Gaidén

Once upon a time... there was a fair young princess, full of virtues. A chevalier, charming, brave and handsome blue prince was willing to take on the adventure to be with her. The romance starts and goes on, and leads us to the long-awaited moment in which the two are wedded and the old "...and they lived happily ever after" is finally pronounced.

The fairy tales of any society express a set of values that the society cherishes and seeks to perpetuate. Vladimir Propp found over thirty recurrent leitmotifs in folk tales; they have come to be known as "Propp's functions." One of these is the wedding that seals the happy ending of the adventures (Propp 1928); the "until death do us part" theme conveys the illusion of living happily ever. While this leitmotif may not refer to any model family, it does validate the idea of the traditional union of a man and a woman ignoring other options.

It helps to see how the mythological patterns of fairy tales underlie rational arguments, which can be assembled like Lego pieces in many different yet clearly identifiable positions. The deeper patterns will always be recognizable whatever the particular structure, which suggests that we should look to these deeper patterns and not just the superficial arguments. We now suggest thinking about the mythological patterns that justify and promote the legal concept of copyright, a cultural idea that focuses on the individual creator as the primary agent. This pattern can be compared with the presumption that traditional marriage is the only valid concept of romantic or sexual expression.

Control as pattern

Mainstream society constantly asserts that marriage is the way to go, that the family can only be composed of a man and a woman, and that its purpose is to create children. This idea is cast as a self-evident, natural fact. In the same vein we are told that without copyright no one will respect creative works, there will be no creativity and many jobs will be lost. Copyright is thought to be the only plausible scheme for guaranteeing a happy ending in the creative sector. But in fact, the wedding motif and the happy ending it implies are based on a specific family model, much as copyright law is based on an industrial, market-oriented model of cultural creativity.

From this viewpoint, copyright is seen almost exclusively as the only way to protect works of the human intellect. The presumption is that the copyright holder must control the use that others make of his or her works e.g., reproduction, modification, distribution and public communication in order to earn revenues to cover production costs. It is assumed that this is the only way to reward the creator. Here in Colombia, as in many other nations, copyright is regarded as the essential legal element of the value chain of industrial cultural production. The value chain "begins with the creator, goes through production, arrives at distributors and marketing, and finally ends in the public which demands the use of these contents."¹

Because this system of production is so dominant, creators of all kinds dream of signing that contract which, within the model of the creative industry, will give them a chance to win fame and fortune – in other words, the happy ending of their own story. This is a fairy tale, however. Most of us are neither princes nor princesses.

Diversity as a counterproposal

Despite the claims by copyright's defenders, there is no direct relationship between creativity and copyright protection. Industries such as fashion (Bohler 2006, Blakley 2010) and cuisine (Fauchart and von Hippel 2006) are notable examples. For example, Bohler cites the exponential growth of the fashion industry, which has no copyright protection for the apparel design that it produces; it relies instead on trademark law for its brand names and logos, which enables the free use and re-use of design elements in a commons. No one can "own" the herringbone suit or mini-dress. Similarly, no one can own food recipes. This "creativity without copyright" contrasts with the music industry's claims that copyright is absolutely essential for any creativity (HPI 2010).

There is a rich literature documenting how sustainable business schemes can be built around creative communities that are based on the open sharing of content, and not strict control, such as free software and free culture communities.² These communities have built these models for encouraging creativity around legal licenses based on copyright ownership. But instead of requiring strict control, licenses such as the General Public License for software and Creative Commons licenses authorize copying and sharing without payment or permission. Creativity in these systems does not revolve around total control of the work, and yet they are economically and culturally productive.

Contrary to the mythological pattern of the traditional copyright story, sometimes the law itself allows greater flexibility for certain uses that are important to society, such as education, commentary and parody. Known as "exceptions and limitations" or "fair use" (depending upon the particular legal system), these legal provisions are not only important to culture and democracy, they help generate jobs and taxes (Rogers and Szarmosszegi 2007).

1 | This description of the Colombian public policy on intellectual property was made by El Consejo Nacional de Política Económica y Social (Conpes) in 2008.

2 | See essays by Mike Linksvayer on free culture (pp. 299–304), Christian Swelkes on peer production (pp. 291–296), and Benjamin Mako Hill on free software (pp. 307–310).

For example, libraries and schools can only work because of these exceptions and limitations to copyright protection. Public loans of books at libraries are a treasure that the society cherishes, and should not depend on the author's will much less on the limits of the market. Copyright laws in most nations acknowledge the importance of fair use and set forth exceptions for libraries, especially for copies associated with custody or preservation. Yet the impulse to control the circulation of works remains very strong. In countries like Colombia, some critics assert that since public lending of books is not expressly mentioned in copyright law, copyright holders are simply tolerating libraries, but that they need not do so. In general, promoters of the traditional narrative of copyright want exceptions and limitations (or fair use) to be as small and limited as possible. But these provisions are in fact more necessary than ever.

Towards new narratives beyond copyright

Although we recognize benefits in the traditional family model, the truth is that there are also other ways to conceive a family. Likewise, there are multiple ways to create. Many of them exist beyond copyright as well as within its boundaries.

Today, new technologies make possible highly useful new patterns of creation and use for copyrighted works as well as new venues for creativity, production, dissemination, access and economic success. The new models move beyond historic, industry-based models of creativity, expanding what previously occurred mainly in local and private environments by enabling them to go global on new public platforms.

The Internet has made possible a new production model that relies on volunteers to jointly create and manage their copyright, not as an individual control system to ensure financial reward, but as a community building system and a sharing economy that also generates wealth (Weber 2004). This production model simply cannot be ignored by the market. Rather, it becomes a necessity for governments, businesses and people in general to recognize that the economy of sharing goes hand in hand with "traditional economy" (Henkler 2006). Lawrence Lessig, founder of Creative Commons, notes that the sharing economy does not conform to traditional market dynamics and what copyright law has defined as legitimate (Lessig 2006).

In sum, we must modify the patterns about creativity so that our stories can be constructed in a substantially different way. We must identify these new patterns³ and build new narratives that expand the range of legitimate possibilities.

We acknowledge the fact that there is a creative environment that benefits from copyright as a control mechanism, but it is also important to acknowledge that it is not the only one, nor can it or should it crush the rest of mechanisms. We must not focus on one form of creativity; we must be willing to accept a social and legal contract where all of them have a place. Just imagine a copyright system that recognizes the legal needs of industry, a free technological culture of traditional

3 | See also "The Communiting of Patents and the Patterns of Communiting," by Franz Nahrada, on pp. 95–101.

communities and academic communities and urban collectives. That would be a true and worthy challenge our judges and policymakers!

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Creative Commons: Governing the Intellectual Commons from Below

By Mike Linksvayer

The intellectual commons have been poorly governed for a long time. Perhaps always. The particulars of poor governance have varied over the decades, centuries and millennia, depending on the structures of society and technologies over the decades, centuries, and millennia. But the rise of digital networks has opened up a new world of possibilities for creative and cultural freedom. Social interactions in theory restricted by copyright law (a major source of commons misgovernance for centuries) have exploded, unleashing new sorts of social, democratic, and economic value-creation.

The legal and policy response of established content industries – film, music, publishing, information – has generally been to ignore the intellectual commons, and sometimes to attack it. Over the past two decades, it has retroactively extended the terms of copyright law, preventing works from entering the public domain, shrink “fair use” and other exceptions that allow re-use of copyrighted works without permission or payment, created new copyright-like monopolies, waged mass lawsuits against ordinary people, suppressed technologies that enable mass sharing, and expanded the geographic scope of copyright regimes.

Commoners develop the tools to build their commons

The most exciting governance developments for intellectual commons have come not from the legal establishment, public policy or business, but from hackers and activists. Over the past twenty years they have carved out new practices, technological tools and legal affordances to help them build, maintain and protect their intellectual commons. The free software movement led the way in the 1980s, not long after copyright law began to apply to software. By the late 1990s, many creators, particularly those using the Internet, wanted to invigorate the commons of culture, education, and science using similar means. From this milieu Creative Commons (CC) was launched in 2002.



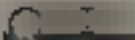


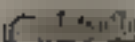
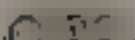
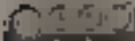
There were many pre-CC attempts to fashion public licenses that would help govern intellectual commons beyond software. These included the Free Documentation License (FDL), Open Content Principles and Open Publication licenses,

1. I cite essay by Christian Sieffkes on pp. 289–294 on the relevance of free software in public administration. See also Federico Melox's essay on pp. 309–310.

Open Audio License, Open Music licenses, Open Directory License, Public Library of Science Open Access License, Electrohippie Collective's Ethical Open Documentation License, Free Art License, and others.

The support and public visibility of CC's initial patrons and founders raised the profile of the nascent movement to build voluntary commons and not coincidentally, contributed to a more centralized stewardship of the tools used to build various commons. Some digital creators started using and recommending CC licenses instead of their own. Others moved their projects to CC licenses equivalent to their existing ones. The stewards and most significant users of remaining licenses often tried to make their licenses more equivalent to one of the CC licenses, or migrate their works to them, in order to foster a greater interoperability of everyone's content.

CC Licenses and Public Domain Tools

The first four tools here are fully free/libre/open	they permit any use by any user
	Public Domain Mark: for tagging works not restricted by copyright, e.g., because they are very old
	CC0 public domain dedication/copyright
	Attribution: any use by anyone permitted as long as credit is given
	Attribution-ShareAlike: same as previous, with additional condition that published adaptations must be offered under the same license
	Attribution-NonCommercial: any use not for commercial purposes permitted as long as credit is given
	Attribution-Non-Commercial-ShareAlike
	Attribution-NoDerivatives: any use without modification permitted as long as credit is given
	Attribution-Non-Commercial-NoDerivatives

Central stewardship and commons interoperability

Centralization sounds bad. However, it is one way to address two of the biggest challenges to successful governance of an intellectual commons. The first challenge is how to assure the legal interoperability of content using different public copyright licenses. Lots of licenses and license stewards tend to produce a fractious commons with incompatible projects. Indeed, nearly all pre-CC licenses are incompatible with each other. This means that for a work published under one license, an adaptation cannot be published under another license,

because the terms of the first license may not be fulfilled when the adaptation is offered under the second license.²

For software, there are several important license stewards, and many licenses. The problem of interoperability has been particularly vexing over the decades through the primacy of one steward, the Free Software Foundation (FSF), and its General Public License (GPL). The FSF is the most experienced steward, and its strong commitments to the full freedom of software users (to copy, modify, re-use and share code) has assured transparency and predictability. Some other free software licenses are much more permissive than the GPL, making one-way compatibility (software under a permissive license may be incorporated into a project under the GPL, but not vice versa) a triviality. With other licenses, like the Apache Software License 2.0, great care was taken in crafting their legal provisions to align with the provisions of the GPL. The drafting processes accounted for the goal of compatibility (recipient and donor, respectively) between the GPL and Apache Software License, and provides an example of coordination in intellectual commons governance.

Freedom, commerce and the commons

Incompatibilities exist within the CC suite of licenses, by design. These are legal in nature, but also cultural and ideological. For example, may an intellectual commons discriminate against (and prohibit) commercial uses? One line of thought says no: Commerce is such a primary function of society that excluding commercial uses from the commons marginalizes the commons from society – and in any case, the copyleft requirement can force a public benefit from commercial uses (by requiring that the works be shareable and re-useable by others).

Think of commercially produced educational materials that adapt Wikipedia articles. Those commercially produced adaptations of Wikipedia materials must be shared under the CC Attribution ShareAlike license (BY-SA), which means that others can freely copy and re-use them. Multiple other schools of thought disagree, however. Some creators want to exclude commerce from the commons. Another set of creators profess ignorance about what will be optimal for any given creative domain, e.g., photography, gaming, music, and therefore urge practitioners to figure out the best terms of governance within their respective domains. Yet another set of creators, in stark contrast with the first, may not wish to build non-commercial commons, but want to engage in traditional copyright-based commerce and refrain from granting commercial permissions while permitting non-commercial uses as a marketing strategy.

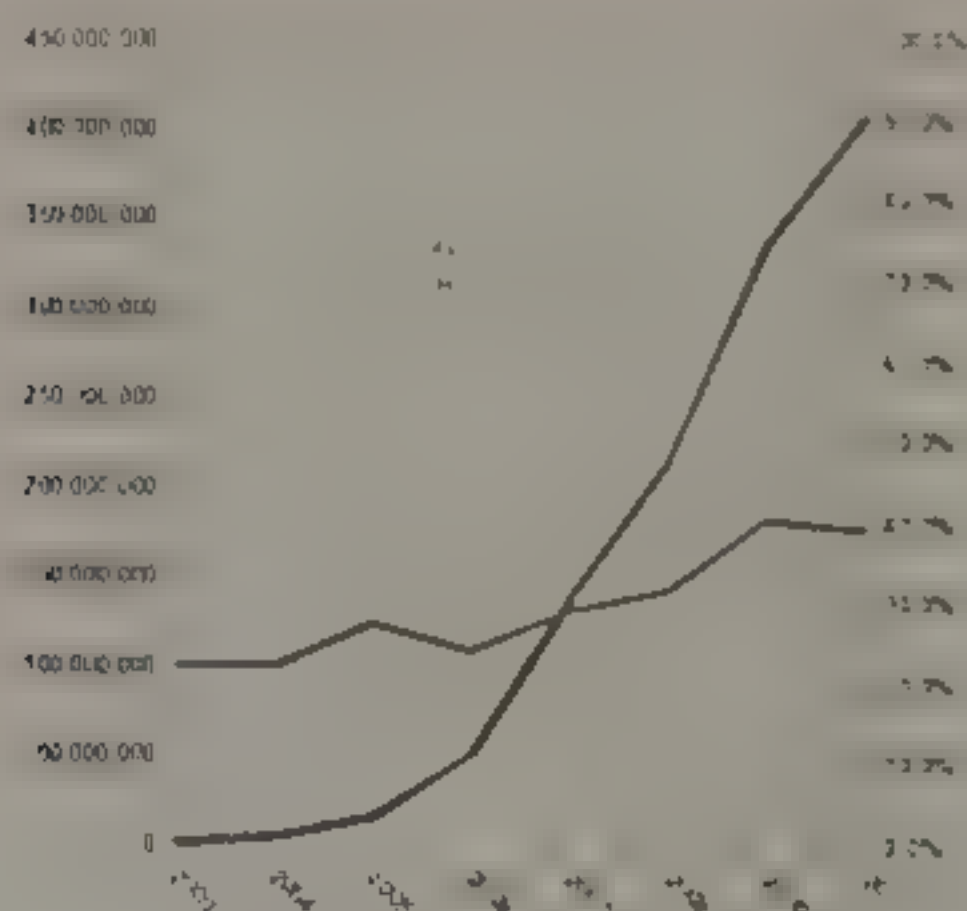
Debate about the best way to structure intellectual commons within different creative domains long preceded CC. For example, many of the early, non-software public licenses were not fully free/libre/open – that is, they don't permit any use by any user. In the software world, this debate occurred years earlier as hackers

2 | Licenses that require adaptations be licensed under the same license as the original work – known as copyleft or share-alike – are by nature incompatible as donors to other licenses, except via an explicit compatibility clause.

questioned whether "free" should mean the freedom to re-use, modify and share for whatever purposes, or available at "no cost." The ultimate consensus was that "free" should mean the former – or as FSF founder Richard Stallman memorably put it, "Free as in freedom, not as in free beer." In 1991 Linux was initially released under non-commercial terms, but it soon switched to the GPL.

The free software world defined itself in terms of freedom quickly and decisively. The same definition might not be appropriate for other parts of the intellectual commons. However, it is also possible that permitting any user to make any use is a "sweet spot" of intellectual commons governance that other domains would have settled on without having free software as an example. Trends toward consensus for a "free as in freedom" standard can be seen in various non-software domains, including scientific communication (open access),³¹ learning (open educational resources),³² public sector information, data, and in aggregate statistics concerning the use of CC licenses. In 2003, Attribution NonCommercial ShareAlike (BY-NC-SA) was by far the most popular license, surpassed by the fully free Attribution-ShareAlike (BY-SA) in mid-2009.

Figure 1 Creative Commons works at year end and percentage free/libre/open



Wikipedia and CC

The trend toward "free as in freedom" has been building for years. Attribution-ShareAlike's (BY-SA) becoming the most popular license in the CC suite coincides with the migration of Wikipedia and other Wikimedia Foundation projects from the Free Documentation License, or FDL, to BY-SA as their primary license. This major shift marked the culmination of a relatively long chapter of modern, non-software intellectual commons governance. Wikipedia started in 2001, before the launch of CC licenses, and used the FDL, designed by the Free Software Foundation specifically for printed free software manuals. Hence FDL was not very appropriate for an online encyclopedia.

Many Wikipedians wished to migrate to BY-SA, but it was not that simple. Wikipedia relies on contributions being made under a public license rather than requiring contributors to grant rights to the site not also granted to the public. Incidentally, this is an intellectual commons governance best practice – a "more-than-equal" participant that does not have to play by the rules of the commons threatens the community's cohesion and retards its self-governance. But the problem was that the FDL is not compatible with other copyleft licenses. Even if legal incompatibility were not an obstacle, it was not clear to many Wikipedians that CC would be the best steward of the project's primary public license. CC's less than fully free/libre/open licenses did not signal a serious enough commitment to non-discriminatory freedom. CC's stewardship was also a concern of the FSF, the FDL's steward, and the entity that would be needed to enable compatibility. As a result, Wikipedia's migration to the BY-SA license has made the intellectual commons more interoperable and thus more robust and unified.

Public policy adopts CC licenses

The second challenge that centralized stewards of licenses help address is the visibility and credibility of the resulting commons. Through initial use by bloggers, musicians, and early institutional connections, CC licenses were able to gain mainstream publicity and validation, later adoption by software platforms and large institutions boosted usage to ever-higher levels. Many governments – Australia and the Netherlands stand out as pioneers – are now using CC tools to release public sector information. Funders are conditioning grants on the release of funded material under a public license, which guarantees at least some public benefit of access and re-use. CC licenses have become a standard means to create and participate in intellectual commons – and that in turn has made it easier for more commoners, including the general public, to participate in and benefit from the commons.

Another key to the visibility and credibility of CC licenses has been its worldwide network of affiliates (autonomous and located within existing institutions, e.g., law schools, cultural institutes, and Wikimedia chapters). These affiliates are key sources of expertise – and pressure – needed to optimize CC tools for worldwide use. Without this base, there would be more impetus for governments

31 See Benjamin Mako Hill's essay about the different meanings of "open" and "free" on

32 See

43 See Ramer Kuhse's essay, "Preserving the Knowledge Ecosystem," on pp. 332-349

and others to create their own (incompatible) licensing tools, likely in ways that would fracture the commons.

In the fall of 2011, CC launched the process of gathering requirements for and drafting version 4.0 of its license suite. This will be another crucial (and long!) moment in the governance of the intellectual commons.

The future of intellectual commons?

Creative Commons and its colleague movements have re-opened the intellectual commons which were until recently at best ignored. Now, they cannot be ignored. In many instances they out-cooperate intellectual monopolies in the marketplace as they demonstrate the non-market value of vibrant intellectual commons for culture, learning, science, democracy, and indeed the economy.

There are many open questions related to the governance of the intellectual commons and the appropriate structures for producing them. How do we avoid merely recapitulating proprietary methods, and instead utilize the characteristics of the commons to create works, products and commons that are more beneficial economically and politically?

Despite encouraging bottom-up developments, societal governance of the intellectual commons is still very poor. By comparison to the deep well of knowledge and experience concerning how to create and market intellectual monopolies, our knowledge and experience about commons-based peer production⁵ and governance of intellectual commons is puny. We can hope that history and technology are on our side and that the rise of the next generation will deepen our knowledge. Still, this will require much effort from the commoners to build the future that we need and want.

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Freedom for Users, Not for Software

By Benjamin Mako Hill

In 1985, Richard Stallman founded the free software movement and published a manifesto asking computer users to join him in advocating for, building, and spreading software that would guarantee its users certain liberties (Stallman 2002). Stallman published a "Free Software Definition" (FSF) that enumerated the essential rights of every user in regard to their software:

- The freedom to run the program, for any purpose
- The freedom to study how the program works, and adapt it to your needs
- The freedom to redistribute copies so you can help your neighbor, and
- The freedom to improve the program, and release your improvements to the public, so that the whole community benefits

A computer scientist, Stallman understood how programmers shape software in ways that influence how users of their code are able to act. Programmers might, for example, design software to spy on, work against, or create dependencies in their users. As users' communication and their lives are increasingly mediated by computers, their experience is increasingly controlled by their technology and, by extension, those who control it. If software is "free," users can turn off exploitative features and work together to improve and control their technology. For Stallman, free software is critical to a free society.

Unfortunately, many people who heard the term "free software" thought the word "free" referred to the fact that the software was distributed at no cost – an understandable source of confusion because free software can be, and usually is, shared without permission or payment. In concerted attempts to address this confusion, the slogan "free as in free speech, not as in 'free beer,'" and references to the distinction between the French *libre* and *gratis*, became clichés in the free software community. A biography of Stallman is titled *Free as in Freedom* (Williams 2002).

In the late 1990s, a group of free software enthusiasts suggested a new term: *open source*. Like Stallman, this group was frustrated by the ambiguity of the word "free." However, the open source group's primary concern was free software's utility to businesses. Rather than stressing "freedom," which they felt would be off-putting

5 | See also Rainer Kuhlen's essay on "knowledge ecosystems" on pp. 111–119.

6 | See essays by Christian Seifert (pp. 289–294) and Michel Bauwens (pp. 121–130).

computer firms open source advocates described the technical benefit is that the "openness" of free software development might bring through collaborations among large networks of users. These concerns coincided with high tech firms at the turn of the millennium when the free software GNU/Linux operating system was surging in popularity and the Apple iMac server was dominating a market of proprietary competitors. The open source concept gained a lot of momentum as Netscape publicly released the source code to its Navigator browser.

But despite rhetorical and philosophical differences, free software and open source referred to the same software, the same communities, the same licenses, and the same development practices. The Open Source Definition was a nearly verbatim copy of the Free Software Guidelines issued by the Debian free software community, which themselves were an attempt to restate Stallman's Free Software Definition. Stallman has described the split between free software and open source as the opposite of a schism. In a schism, two religious groups worship separately due to sometimes-minor disagreements about liturgy or doctrine. In free software and open source, the two groups have articulated fundamentally different philosophies, politics, and motivations. Yet both sides continue to work together closely within the same organizations.

Conversations around *libre* and *gratis* in the free software and open source communities overshadowed a second and much less discussed level of linguistic ambiguity in the term "free software": the term led to the four freedoms being interpreted as statements about the freedom of software itself. Stallman doesn't care about free software, he cares about free users of software. The slogans "free as in freedom" and "free speech, not free beer" are unhelpful in resolving this second type of ambiguity, and may even increase confusion. "Free as in freedom," is simply silent as to what should be free, while "free speech, not free beer," reproduces a parallel problem: free speech advocates do not actually care about the freedom of speech – they care about the freedom of individuals to speak. When the free software movement's core rhetoric focuses attention on the qualities of software, some participants come to view the freedom of users as a second-order concern – it is simply what happens when software is free.

When software is free, but users are not

But user freedom does not always stem from software freedom. Indeed, as free software has grown in economic and political importance, it has attracted the attention of some who wish to reap the benefits of free software while keeping users restricted and dependent.

Google, Facebook, and other titans of the Web economy have built their businesses on free software. And they are not merely free riders in their usage of this resource; in many cases, these firms freely share at least some of the code that runs on their services and invests significant resources in creating and maintaining that code. Each user of a "free software" network service can have a copy of software that allows the FSD's four freedoms. But unless these users run the web service themselves – something that may be technically or economically infeasible – the

users remain at the whim of the firm who does run their copy. "Software as a Service" (SaaS) – or software provided via "the cloud" – is entirely compatible with the idea of software that is free. But in that users of the service cannot change the software or use it as they wish without the permission and oversight of their service provider, SaaS users are at least as dependent and vulnerable as they would be if the code were closed.

Google's Chrome OS is an attempt to build an operating system that gets users online and connected to services like Google Docs for users to do most of their computing. When Google announced Chrome OS, many in the free software community celebrated; Chrome OS is based on GNU/Linux, is almost entirely free software, and has Google's backing. But the goal of Chrome OS is to change where users' computing happens, by replacing applications a user might run on their own computer with SaaS. Every move from a piece of "desktop" free software to a SaaS service is a move from a situation where a user had control over his or her software to a situation where users have very little control at all. For example, Google's use of free software in its SaaS services enables it to monitor all uses and add or remove features at will. By focusing on the freedom of the software and not the users, many free software supporters failed to appreciate this troubling dynamic.

The TiVo – the pioneering digital video recorder – presented a different challenge. Its software was based on GNU/Linux and, in compliance with the "copyleft" license that most free software is distributed under, the TiVo corporation distributed full access to its source code. But TiVo used encryption to lock down its device so that it would run only approved versions of Linux. TiVo users could study and modify the TiVo software, but they could not use the modified software on their TiVo. The software was free, but the users were not.

SaaS, Chrome OS and "TiVoization" are issues that continue to roil the free software and open source movements and expose philosophical fault lines. It is unsurprising that open source advocates see no problem with SaaS, Chrome OS, and TiVoization; they are not committed to the freedom of users of software. But each of these examples has been divisive even among people who believe that software should be free. The Free Software Foundation (FSF) has taken explicit stands against each of the issues above. But it has been slow to recognize each threat and has struggled to successfully communicate these messages to its constituency. Today, it seems likely that Google and its service-oriented business model represents a greater threat to future computer users' freedom than does Microsoft's. But because Google scrupulously complies with free software license terms and contributes enormous amounts of code and money to free software projects, free software advocacy has been very slow to recognize, and respond to, the threat that it poses.

Even the FSF continues to struggle with its own software-oriented mission. Stallman and the FSF have worked over the last several years to move nonfree code that runs on what are essentially smaller subcomputers, e.g., a wireless interface or graphics device within a laptop, from the computer's main hard drive into the subprocessors themselves. The point of these efforts is to eliminate nonfree software by turning it into hardware. But are users of software more free if

proprietary technology they cannot change exists in one form on their computer rather than another?

The key to answering this question, and others, lies in focusing on the observation that distinguishes “free” from “open.” Free software advocates must return to their ultimate goal of freeing people, not software. Stallman and the free software movement’s fundamental innovation was to connect questions of personal autonomy and freedom to areas where most did not see its relevance. As the nature of technology changes, so will the way in which users remain free. And as others adapt free software principles to new areas, they will be faced with similar problems of translation. To the extent that our communities are able to distinguish between “openness” of artifacts and to emphasize questions of control, politics, and power, free software philosophy will remain relevant in these broader conversations about new and different commons – in software and beyond.

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Public Administration Needs Free Software

By Federico Heinz

Public and private administrations share many common features: they aim at making the best use of finite resources. But they also display important dissimilarities stemming from the fact that the actions of public administrators are public acts, not private ones. Except for a narrowly defined set of information that it gets to keep confidential due to security concerns, while a public body must answer to all of society, and not just to itself.

This has profound consequences when considering the use of information technology by public administrations, where computers have made filing archives obsolete; improved the decision making ability of clerks, and replaced old communication channels, increasing both the speed and the reliability with which administrations operate. The flipside of these advantages is, of course, dependency: who hasn't witnessed whole government bodies grinding to a halt due to some

technical glitch, or fast-forward to the 1999-2000 Y2K scare? A computer system's control of crash events, however, often they may happen, this dependency on computers raises a much more serious concern: the question of who controls them.

Most computer users believe they control their machines. By extension, they assume that any organization has full control of the machines it owns. They are wrong. Computers are not under their control, but rather they are owned and wondrously betray them if so instructed by the only master they blindly obey: the program.

Proprietary software users often experience this betrayal: where the computer actively refuses to carry out the user's orders, or performs actions that the user neither requested nor authorized. Familiar examples range from a computer installing malware (malicious software programs) when users open an email attachment, refusing to copy a song from one media player to another and silently installing unsolicited software on the user's machines, to refusing to work past a certain date or deleting fully paid-for works from the user's e-book reader in order to protect the commercial interests of vendors or third parties.

In administrative bodies that use proprietary software, the problem of programmed control of the public administration's computers is made worse by the combination of restrictive software licensing terms and the prohibitive cost of switching programs for any given task. Not only do proprietary software providers set their programs' licensing terms at their whim, they also often change them,

unilaterally and retroactively. They can afford to engage in such customer-unfriendly behavior, because customers know that they can't switch proprietary software providers without also switching programs, which is costly and cumbersome.

Yet a public administration answerable to all of society can't leave the control of critical infrastructure in the hands of individual persons or organizations. It is irresponsible to manage information – whose integrity and availability critically affect citizens' lives – with software for which the administration has obtained only a limited right to use under non negotiable restrictive conditions. It is even worse when we consider the risks of entrusting such critical infrastructure to companies based in foreign countries, which may be subject to pressure from intelligence agencies to provide means for remote surveillance or sabotage of specific installations.

These intractable problems can be avoided only through the use of programs that aren't under the control of any individual entity. It requires software that can be obtained from multiple sources, which can be supported and extended by anybody the administration wishes to task with the job, programs that can be thoroughly audited both by the administration and the public, to make sure that they actually fulfill their stated purpose, programs that can be modified to meet the needs of the administration, independently of the goodwill and interests of any particular provider.

It seems like a tall order, but it is not. Such programs are widely available, and actually constitute the foundation of the world's information infrastructure. We call them "free software," a term coined over twenty five years ago by Richard Stallman, initiator of the movement that made its development possible. It provides technical solutions for the information technology needs of virtually any organization, at a comparable or lower cost than proprietary products, without relinquishing control over the administration's information to outside entities.

Most public administrations, however, still use proprietary software. Why? Government officials will claim that some free software solution lacks a feature deemed essential by technocrats, others will bemoan that the immediate licensing costs of a proprietary system are lower than the deployment and customization effort needed to implement the free equivalent. These and many other variations are just excuses intended to hide a cowardly unwillingness to set responsible policies. Mixing features always can be added. Low initial licensing costs are irrelevant when the costs of later switching to another provider are prohibitively high, etc.

We aren't talking about mere convenience here, about which program is "better" than the next, or about price/performance tradeoffs that make once choice preferable to the other. We are talking about fundamental principles of republican life, to which citizens and certainly governments should have a hard time attaching a price tag. The use of proprietary software in the public administration always entails a fundamental betrayal of the public's trust. No society can afford that.

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From Blue Collar to Open Commons Region: How Linz, Austria, Benefited from Committing to the Commons

by Thomas Gegenhuber, Naomi Huque and Stefan Pawel

The City of Linz, Austria, launched the first municipal initiative in Europe to build a vibrant public-civil-private digital ecosystem – the Linz Open Commons – to serve the needs of public administration, citizens, enterprises, science, arts communities and educational institutions.

Linz, the provincial capital of Upper Austria, has approximately 190,000 inhabitants and is usually considered an industrial blue collar town. Nevertheless, the city is open to both cultural and technological change as important drivers for an improved quality of life. In 1979, the City of Linz became known for its pioneering experiments with digital culture by hosting the "Ars Electronica," an initiative that is at once an avant-garde festival, a showcase for excellence in digital art, and a media art lab providing artistic expertise for R&D projects.

Open Commons Region

The City of Linz started its digital innovations in 2005 with its Hotspot Initiative, which built 119 freely accessible wi-fi hotspots in public places like parks, libraries and youth centers. The municipality later initiated the Public Space Server to make access to Web publishing more accessible to citizens, and the Creative Commons Subsidy Model, which offers some artists a higher art subsidy from the city if they publish their work under a Creative Commons license.¹ The next step was to develop strategies for integrating the Web into local public policy. To accomplish this, the City of Linz has developed a framework for the first Open Commons Region in Europe.²

Christian Forsterleitner, member of the municipal council, explained, "The foundations of an Open Commons Region are the digital, freely accessible public goods of a society. That means free and open source software, open data, open street maps, open educational resources, and freely accessible creative works in the areas of film, music and photography." Gerald Kempinger, as the Chief Information Officer of Linz, notes, "We welcome every initiative – from citizens, community groups and enterprises" (Glechner 2010).

1 | Mike Linksvayer describes the Creative Commons licenses on pp. 299–304.

2 | See the *Open Commons Region* by Thomas Gegenhuber, Naomi Huque and Stefan Pawel, *Journal of Openness*, of "openness," on pp. 303–308.

In 2010, the information technology department of the city, in collaboration with Gustav Pomberger, professor of computer science at the Johannes Kepler University Linz, published a study on the “Open Commons Region Linz” (Kempinger and Pomberger 2010). The report summarizes the role of local government in establishing an Open Commons Region. In the past, public funds have been used to develop infrastructure focused on capital-intensive infrastructure like roads or civic institutions. In a knowledge economy, it makes sense to also invest in intellectual growth, shared data, and ideas. In this context, the role of the government is to create a framework for making the sharing of information and knowledge easier. This means enacting appropriate legislation, building public awareness, and supporting new Open Commons initiatives proposed by citizens and private enterprises.

The study suggested three major activities to establish an Open Commons Region. The first step was to explain the relevance of Open Commons to the inhabitants of Linz through a public awareness campaign and developing a brand. The second step was to organize, coordinate and encourage Open Commons activities through an office for coordination and assistance, and a system of open data for local government (Kempinger and Pomberger 2010). “The City of Linz needs to open its data sets,” noted Leonard Dobusch, researcher in the Department of Management at Free University Berlin and co-editor of the book *Free Networks, Free Knowledge*. “If the city fails to be a positive role model, the Open Commons Region will fail. In circumstances where the government has neither the resources nor the incentives to innovate, the public can take the lead and use the data for productive purposes.” The third step called for the city to network with other regions, to establish national and international cooperation to spread the idea of Open Commons, and to learn from other cities in Europe.

By the end of 2010 the office for coordination of the Open Commons activities was launched. Its first project, begun in October 2011, was an Open Government Data platform to provide statistical data about Linz, election results, orthophotos (aerial photographs, geometrically corrected), maps, real-time public transport data and records of the municipal council (Stadt Linz 2010).

The second initiative was Clickfix, a geodata-based complaints management tool that lets Linz citizens report problems online. Inspired by the internationally well-known SeeClickFix or FixMyStreet, the system makes reports on each problem visible for everybody to see. It is a win-win for both sides: citizens know how the city deals with their problems and the city administration can show how fast and reliable they are in solving a problem.

The Open Commons Region is still a nascent project. But, so far, the response of Linz citizens, academics and the business community is encouraging. Many institutions have projects in understanding and dealing with the problems behind the Open Commons Region. However, the City of Linz and the many dedicated stakeholders of the new public-civil-private ecosystem are determined to fulfill the vision of an Open Commons Region.

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Thomas Gegenhuber (Austria) has several years of nonprofit experience. He worked in Toronto for the think-tank McHenry Insight that is chaired by Don Tapscott, conducting research on open government. He now contributes to such projects in Linz and blogs at www.thomas-gegenhuber.at.

Nauman Haque (Canada) is currently the Associate Research Director for the Enterprise Council on Small Business at Corporate Executive Board. Nauman has a decade of experience in the research and advisory industry. He has conducted research and provided thought leadership on a variety of topics, including enterprise collaboration, social media, digital identity and customer behavior.

*Stefan Pawel (Austria) is project manager of the Open Commons Region Linz and has experience in project management of web portals, marketing and sales. He is co-author of *Freie Netze: Freies Wissen, Freier Ort* and author on the topic of Web Science. He blogs at <http://www.blog.opencommons.at> and <http://www.data.linz.gv.at>.*

Emancipating Innovation Enclosures: The Global Innovation Commons

By David E. Martin

Patents represent a social contract about innovation – the public, via government, grants limited-term monopolies to entrepreneurs as a way to encourage innovation, and the public reaps new knowledge and market access to new technologies. This social contract to “promote science and the useful arts” has in fact done little to achieve that goal, which has instead been pursued mostly through public funding of academic research and contracts with industrial enterprises. At best, patents have been a means to manage market scarcity and thereby profits. As a practical matter, they have been more useful as litigation weapons or tokens of individual achievement.

For decades, policy makers on both sides of the Atlantic have clung to an entirely unfounded axiom that proprietary instruments are necessary to stimulate innovation and financial development. They have purveyed the distorted notion that societies can generate the technological innovations they need only by restricting the creative impulses of humanity and hoarding them in proprietary forms, especially patents. This belief has been aggressively advanced through the World Trade Organization, the World Intellectual Property Organization, competitiveness policies and laws, and egregiously mismanaged representations of “development.”

For the past thirty years, economists have unsuccessfully attempted to establish a direct correlation between the deployment of proprietary rights and economic (to say nothing of social) good. This effort has been confounded by two alarming and unaddressed problems. First, modern patent offices have categorically denied any responsibility for the economic consequence of the patents they grant – while relying on business models (fees and personal compensation) that reward patent examiners for issuing more patents. When WIPO, Denmark, and others investigated what happened when patent offices take quality and market consequences into consideration, they found that fewer patents are issued. However, fee income also drops, and so such reforms of the patenting process are quickly shelved.

A second problem has been the sheer proliferation of patents. Since 1980, when the US and Japan launched the modern innovation “cold war,” companies have sought new patents as weapons for negotiations over market control. Even a dubious patent can be used as a bargaining chip in litigation and other disputes. The proliferation of patents, many of them illegal, has so thoroughly choked the global

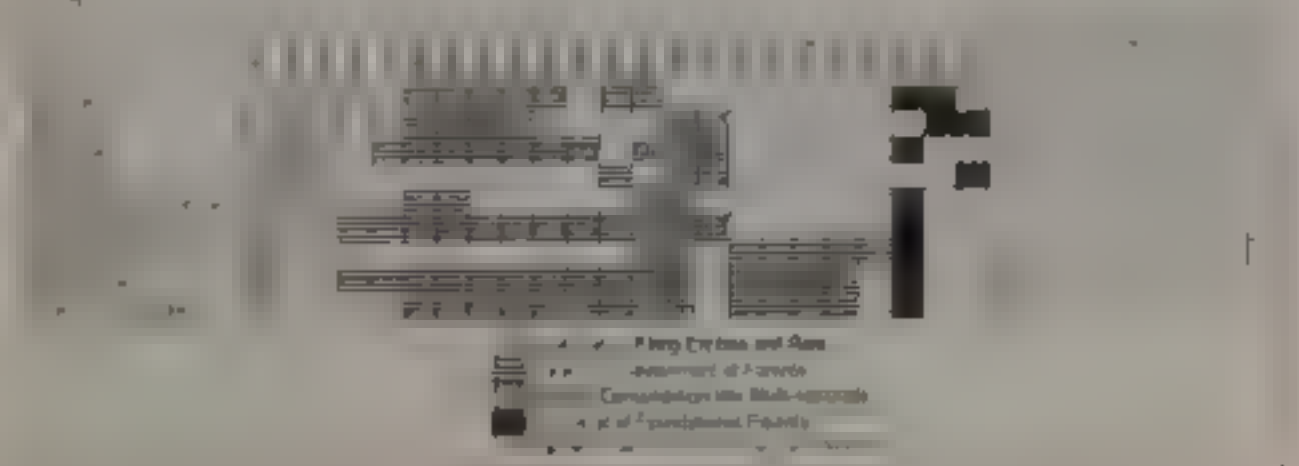
corpus of patents that you are more likely to find actual artifacts of innovation and invention through statistically random chance than through actively looking for them. As the system neither does, nor can, work, looking to patents to solve our pressing innovation challenges is misguided in both theory and implementation.

At least since 1980, companies have used patents and other intellectual property regimes to block commercial access to and market use of innovations. It is no accident that some of the largest patent estates were filed by companies who had the most market share to lose. Oil companies filed and held thousands of environmentally desirable patents in fields ranging from solar and wind power to hydrogen and hybrid propulsion. Paint companies filed and held thousands of patents on alternative surface coating techniques only to continue using toxic metals in industrial production. Pharmaceutical companies and their agro-chemical allies filed and held thousands of patents on treatments and cures for disease and on land renewal technologies, ensuring that no one else could use these options.

Defensive patents – representing an estimated 80 percent of all filings by industrialized nations – are not artifacts of innovation but pawns used to minimize risks during litigation. In the meantime, such patents not only preclude others from entering into research and development and marketing efforts, they freeze much-needed technology out of the market.

Figure 1 illustrates the dismaying impact of patent grants made over the past 25 years. Long before there were any business models or consumer demands for technologies ranging from bio chips to fuel cells to hydrogen-powered vehicles, patents were granted for broadly ranging claims that covered explicit and anticipated technologies years before market conditions could conceivably assimilate them. The chart shows the periods of highest patent filings when companies anticipated wide ranging uses of the technologies (1987-1990), followed by the rapid abandonment of “patent estates” (1989-2006) through failures to maintain the patents or through dissolution of businesses, in each case with more rights released to the Commons than retained by industry. The light gray zone (1997-2001) indicates the period in which large multinational corporations consolidated a significant majority of the entrepreneurial ventures in each industry segment. The black zone (2007-2009) indicates the expiration of the early platform/foundational patents in these market areas. Finally, the hatched zone

Figure 1.



(various years, 2009–2018) indicates the consensus among industry experts and market analysts for when markets for these technologies will mature. Note how a huge number of patents are now expired, abandoned and in the public domain.

This chart can be seen as a cause for great depression. However, the realities depicted here also represent an unparalleled opportunity for the future of humanity. What if all of the expired, abandoned and invalid patents were to be consolidated into a single database? Entrepreneurs and national governments could query the database on a country-by-country basis to identify helpful technologies that are in the public domain, and therefore available to use. Once we know what technologies are in the public domain, we can develop them at lower costs than patented technologies.

This is the basic idea of the Global Innovation Commons, developed by my organization M-CAM. The project seeks to bring the advantages of the open source software development model – open participation, faster innovation, greater reliability, cheaper costs – to technologies whose patent claims are no longer valid. This means that, as of right now, you can take a step into a world full of possibilities, not roadblocks. You want clean water for China or Sudan – it's in here. You want carbon-free energy – it's in here. You want food production for Asia or South America – it's in here.

In the Global Innovation Commons, all innovation artifacts (patents, research publications, government or industry sponsored research reports, and technology procurement records) have been assembled and reviewed for their legal standing in every country on Earth. These innovation artifacts have been compiled so that jurisdictions of enforcement are easily assessed, so infringement can be avoided in any jurisdiction. This enables a business or government to know what can be developed for domestic use only, for limited export, or for general export. Whenever possible, using abandoned patents, global freedom-to-commercialize positions are identified for unrestricted commercial use and deployment.

By examining each "innovation enclosure artifact" (patents and related filing information) for its jurisdictional scope of enforcement, one can immediately identify those countries where open source freedom-to-operate status prevails. In the database, each innovation artifact, together with its jurisdiction(s) of enforcement is displayed so that the user can identify who is the innovator, the owner of record, and any other pertinent information about the innovation. One can immediately identify both zones for commercial development and use and those zones where active patent enforcement may blockade an open-source-derived product or service.

Der Spiegel has noted that the Global Information Commons database represents a huge advance because it aggregates so many different patent-free technologies from so many different parts of the world: "[The Global Information Commons'] custom-made software and a vast server are programmed to trawl and compare hundreds of thousands of patents and information that would seem an incongruous list of places: Papua New Guinea, Berlin, the Brazilian rainforest, New York. Some of these patents are current; others have expired."

A search of the database reveals that one in three patents registered today as energy-saving technology duplicates inventions that were first developed following the oil crisis of the 1970s, and so can be freely used. A great many patents are not novel at all. They simply duplicate innovations that were made decades ago. But patent applications often disguise this fact by using colorful, and complicated language. Overworked government patent examiners struggling with limited resources and seeking to avoid legal hassles often grant new patents that are not truly warranted. The Global Innovation Commons helps reveal and confirm the patent-free status of important technologies.

Here's another reason why so many old patents are now available – at least in certain countries. In the 1970s and 1980s, when many companies were engaged in a "cold war" of innovation abuse, they generally overlooked filing for patents in the "most marginalized states," or MMS – a term we use in place of the conventional term "Least Developed Countries," or "LDCs." Companies didn't file patents there because those markets didn't seem to matter.

This oversight has now created an unprecedented opportunity. Using the Global Innovation Commons, humanity can claim what by international law is ours – namely every innovative thought and every contemplated imagination in the tens of thousands of patents that have now fallen into the commons. As a result of industrialized patentees failing to designate patent protection in MMS, or because patents expired or were abandoned, the scope of potential open-source technology development in many technology sectors is amazing.

Solar energy power systems: 9,074 patents are available, representing approximately US\$9.3 billion in research and development alone and US\$113 billion in terminal deployment value.

Gravitational and magnetism-augmented power systems: 16,434 patents are available, representing approximately US\$16.8 billion in research and development alone and US\$241 billion in terminal deployment value.

Tidal energy power systems: 6,717 patents are available, representing approximately US\$6.9 billion in research and development alone and US\$98.3 billion in terminal deployment value.

Hydroelectric and hydromotive power systems: 12,869 patents are available, representing approximately US\$13.2 billion in research and development alone and US\$188 billion in terminal deployment value.

Similar opportunities exist to develop geothermal power systems (11,449 patents), hybrid electric vehicles (21,412 patents), fuel cells (21,861 patents) and wind turbines (22,546 patents). Through the Global Innovation Commons, the commons, The World Bank has estimated that the technologies in the GIC database could save more than \$2 trillion in potential license fees.

When Volkswagen received a patent for a hybrid electric vehicle that includes a rotating flywheel mass variably engaged by a series of clutches in 1979, their allowed patent claims are so broad as to describe virtually every hybrid electric vehicle built since. However, this patent expired in 2002 and is now in the public domain, where anyone, anywhere, can adopt every element of this invention.

without any fear of patent enforcement. That's right: an automotive company in a marginalized country could use 100 percent of this information to design and build a car to compete with Toyota's Prius. Today.

Every commoner can use this vast database as a tool to develop publicly funded, affordable, open source technologies that can solve urgent challenges in health, energy, transportation, food and water. "Recycling" patent estates that were wrongfully granted can liberate public and private funds for more efficient uses.

This recycling effort can include the use of patents for one of their long forgotten purposes – to stimulate others to build on them with unanticipated new ideas, open-source style. On a practical level, the government and procurement agencies acting with public funds can adopt a standard procurement and development investment policy that mandates that public funds preferentially flow to those innovators who can deploy or integrate open source technologies.

In this fashion, the Global Innovation Commons promises to spur a new wave of technological innovation through the sharing of new ideas rather than through exclusive, private control of them. This is no academic claim. The majority of science and technology required to deal with emission controls, energy-harnessing, storage and distribution, transportation, and water use and reclamation, already exists – and can be found in the Global Innovation Commons database.

Prevailing economic thought perpetuates the illusion that we still haven't "innovated" enough. But in reality, more than US\$1.6 trillion in latent market (innovation) has been created over the past three decades alone. It just hasn't been developed and deployed. It hasn't been developed not because it is deficient, but because it could challenge market incumbents and their entrenched technologies and business models.

Given the magnitude of the challenge before humanity, our clarion call is to deploy and honor these innovation impulses, especially to seed environmentally constructive enterprises in the Most Marginalized States. We can begin to imagine a world in which ecosystems, human interaction, and value exchange bring dignity to the earth, facilitate collaborative engagement between people, and yield prosperity to every engaged person. Ironically, this opportunity arises from a vast storehouse of patent-free innovations from decades ago – a hidden resource created by unequal access to resources, unconsidered consequences, and asymmetric wealth and power distribution.

David E. Martin (U.S.A.) is a business founder, public policy advisor, and foresight communicator. He pioneered the field of unstructured data analysis and linguistic genomics and grounds his present work in his earlier research. He is the founder and Chairman of M-CAM and shares his life with his wife Colleen and his two children, Katie and Zachary. His blog is *Inverted Alchemy*, at <http://invertedalchemy.blogspot.com>

Move Commons: Labeling, Opening and Connecting Social Initiatives

By *Javier de la Cueva, Bastien Guerry,
Samer Hammad and Vicente J. Ruiz Jurado*

Here and there we see many initiatives promoting the commons in different fields (free culture, open educational resources, seed banks, "reclaim the city"). However, only a few have reached critical mass and are well known by multiple communities; the majority remain in their social silos and political niches, more or less ignored by the mainstream. Yet we all know about people out there who would love to get involved in helping improve the world. They just don't know which initiatives to help, and how to locate them. From the outside, it can be difficult to have a clear view of the ones available. So what happens, typically, is that people end up helping those large non-governmental organizations that have enough resources to pay for ads and marketing. The local, small initiatives, even ones with enormous potential, remain in the shadows because they cannot be easily found.

Move Commons is a Web tool that seeks to change this situation. It aims to boost the visibility of such smaller social initiatives while building a network of related initiatives across the world. As the developers of this Web tool, we strongly believe it can foster mutual discovery, facilitate new projects, and help various movements to reach critical mass.

How does it work?

Move Commons helps initiatives, collectives, NGOs, non-profits and social movements to publicly announce their core principles through a mechanism similar to the one used by Creative Commons (CC).¹ Creative Commons allows authors to "label" their cultural works using icons representing a specific legal license. Move Commons provides a set of "labels" for social initiatives using a user-friendly, bottom-up system. The labels consist of four icons, together with a complementary set of keywords (such as its field of activism, research topics, geographical location, etc.). Like the CC licenses, Move Commons icons use RDFa tags – a set of metadata protocols – to facilitate Web searches that can locate projects and organizations.

1 | See Mike Linksvayer's essay on Creative Commons licenses on pp. 299–304

Projects can choose Move Commons “badges” that accurately describe the character of their activities, and place the generated logo (a combination of four icons) on their Web pages. Websurfers who reach a homepage with the icons can then see at a glance the general character of the initiative. The icons answer several questions: Is this initiative nonprofit? Is it transparent? Can I use part of their contents for my blog? How are they organized internally? Do they fortify the Commons with their actions?

When you generate the badge for your Web page, Move Commons not only provides you with some easy-to-understand icons, it also gives you some machine-readable “semantic code” containing the information you provided, which you then place on your Website.²¹ This allows search engines to identify and “understand” the Web pages that have Move Commons badges, enabling searches such as, “Which initiatives exist in Cairo that are grassroots organizations, nonprofit delivering Creative Commons content, and related to environmental education and children?” (Or substitute your own favorite social concerns, keywords and places.) If your initiative fits that description, the Move Commons semantic code would allow your webpages to be located and appear in the results. This capacity lets projects locate and collaborate with like-minded initiatives anywhere in the world. Potential volunteers can easily find an initiative that interests them even if the initiative is small and unable to market themselves widely.

Move commons labels

The four labels we propose for each initiative are: “Non-Profit,” “Reproducible,” “Grassroots” and “Reinforcing the Commons.”

- Non-Profit means that your initiative is a not-for-profit initiative
- Reproducible means that you make it easy for anyone to clone your initiative. You are documenting your own processes and sharing your contents for others to use. Thus, you are facilitating others to follow your path and avoid problems that have already been solved
- Grassroots means that your initiative’s governance tries to be as horizontal as possible. That is, hierarchical structure is minimal or nonexistent, allowing horizontal grassroots discussions to have a major weight in the decision-making as opposed to relying upon “vertical” instructions from a board
- Reinforcing the Commons means that your movement aims to reinforce the Commons. Maybe you are working on some environmental project. Maybe you are writing free software. Maybe you are spreading free-licensed learning content. In all cases, you are reinforcing the commons and people should know about it. (We envision the possibility of flexible services in the future that could provide crowd-validation or further details for this self-selected label.)

21 “Semantic code” is metadata that is embedded into webpages to facilitate machine-readable searching and organization of information, enabling Web users to perform information-retrieval tasks in faster and more intelligent ways.

Trust and validation

Move Commons is a self-labeling system where initiatives choose the icons/categories that they believe they comply with. This is certainly different from systems in which centralized institutions issue formal certifications. Such systems rely on the fact that the users must trust blindly the single certification issuer, which theoretically guarantees the accuracy and validity of the certifications, e.g., guaranteeing the nonprofit status of a foundation. However, there are multiple possible problems with the trustworthiness and legitimacy of these institutions.

Within the Move Commons ecosystem, initiatives are the ones that self-assign and self-certify their categories, and thus there is no “centralized certification issuer.” This means that there might be initiatives that choose incorrect categories to describe themselves (either by mistake or on purpose), e.g., advertising themselves as “grassroots” when they are not. Optimally, there should be clear criteria for each category, together with a process of crowd-validation by the community.²² Thus, initiatives with controversial or incorrect icons would receive growing pressure to change them. Such processes would be independent services built on top of the open infrastructure. The basic Move Commons layer wouldn’t include any validation, allowing flexibility for multiple solutions implemented by third parties.

Helping projects reach critical mass

The Move Commons labels aim to make collectives consider their missions and push them towards the ideals behind the four labels. It hopes to trigger such questions as, “How could we be reproducible?” “What should/can we do to contribute to the Commons?” “Are we horizontal enough to be considered grassroots? Why not?” The labels promote the discovery of small local groups and encourage volunteers to work for projects that fit their passions, and not just those that are large and well-marketed. Most importantly, volunteers and donors can discover that “they are not alone” – a common problem in small initiatives that do not have the time or resources to learn about other, similar initiatives. Move Commons labels can help groups reach critical mass, reduce the duplication of efforts, share their mistakes and successes, and become part of larger networks of activism, even at the international level.

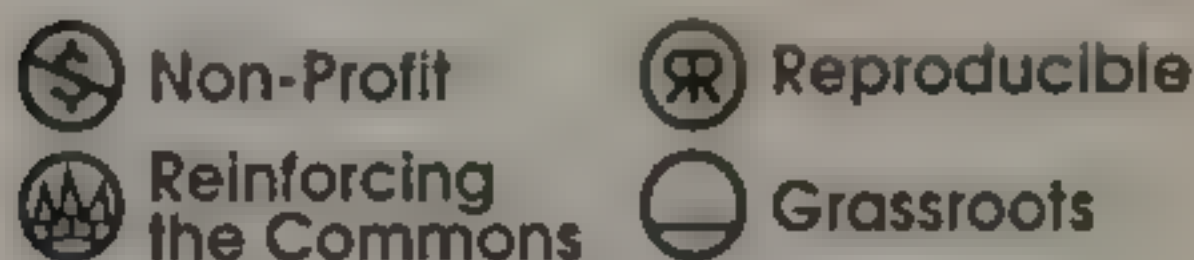
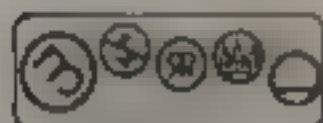
The driving force behind Move Commons is a few volunteers backed up by the Comunes collective (at <http://comunes.org>), a nonprofit organization focused on facilitating the work of other collectives and activists through the development of free/libre tools, with the aim of encouraging the commons. By the end of 2011 Move Commons was in the alpha stage of development. We have plans to improve the format creating the badges to generate the Web page, adding to the semantic code and developing a Move Commons community website. The key to us is these are ready

22 A proposed solution can be found in “The Evolution of Reputation,” chapter 5 of Rheingold, H. 2002. *Smart Mobs: The Next Social Revolution*. Basic Books.

23 <http://movecommons.org/movecommons/index.html>

24 <http://github.com/de-la-cueva/semantic-code>

third parties would be able to build additional services on top of the network of MC-labeled initiatives. These might include the aforementioned crowd-validation, recommender systems of initiatives, geographical mapping, network visualization, web widgets and others. In fact, Move Commons is fully decentralized so anyone could generate MC badges, and any search engine can track the semantic code, so we would not become a centralized node. This is essential for commons on open digital platforms.



Javier de la Cueva (Spain) is a practicing lawyer. He has handled the defense for *Ludnamo* (the first ruling ever to acknowledge Copyleft) and *Sharemulo* (which confirmed that websites offering links to P2P networks do not infringe on intellectual property). He participates actively in *Medialab Prado Commons Lab*. He is a *Syndm*, writes his scripts in Python, and is an intellectual property lecturer.

Bastien Guerry (France) is a French free software activist. He currently works on exploring new digital experiences for cultural heritage institutions. He spent the last five years working for projects like *One Laptop Per Child*, *Wikimedia* and the *GNU* project.

Samer Hassan (Spain/Lebanon) is an activist, researcher in artificial intelligence and assistant professor at the *Universidad Complutense de Madrid*. He is Co-Founder of the *Comunes.org* collective, an umbrella for initiatives such as *Ourproject*, *Kune* and *Move Commons*.

Vicente J. Ruiz Jurado (Spain) is a computer engineer. For more than a decade, he has been happy and busy trying to solve problems in our society through social, environmental, hacking and pro-commons activism. He is Co-Founder of *Ourproject*, *Move Commons* and *Comunes.org*, among others. He keeps trying. -

Peer-to-Peer Economy and New Civilization Centered Around the Sustenance of the Commons

By Michel Bauwens and Franco Iacomella

The "peer to peer" and commons-oriented vision for a new type of civilization and economic system starts from an analysis of what is fundamentally wrong with the current economic system. Rather than put forward a utopian ideal, the P2P vision is based on generalizing the already emerging forms of peer production, peer governance, and peer property. It makes three primary critiques of the dysfunctions of the present system:

1. *The current political economy is based on a false idea of material abundance. We call it pseudo-abundance. It is based on a commitment to permanent growth, the infinite accumulation of capital and debt-driven dynamics through compound interest. This is unsustainable, of course, because infinite growth is logically and physically impossible in any physically constrained finite system.*¹

2. *The current political economy is based on a false idea of "immaterial scarcity." It believes that an exaggerated set of intellectual property monopolies – for copyrights, trademarks and patents – should restrain the sharing of scientific, social and economic innovations.² Hence the system discourages human cooperation, excludes many people from benefiting from innovation and slows the collective learning of humanity. In an age of grave global challenges, the political economy keeps many practical alternatives sequestered behind private firewalls or undunded if they cannot generate adequate profits.*

3. *The pseudo-abundance that destroys the biosphere, and the contrived scarcity that keeps innovation artificially scarce and slow, does not advance social justice. Although people may have a formal legal equality of civil and political rights, serious and increasing material inequalities make those rights more nominal than real. At the other extreme, the polity explicitly grants human rights to the artificial legal construct of the for-profit corporation, a pathological institution that is solely beholden to its shareholders, and is constitutionally unable to take into account the common good.*

The present corporate form is a machine designed to deny and ignore negative environmental and social externalities as much as possible. Because it is driven by

1 | See also the essay by Michel Bauwens on peer-to-peer production on pp. 179–193.

2 | See also the conversation between Davey, Helfrich, Hoeschele and Verzoza on pp. 102–110.

3 | Beatriz Busaniche, among other authors, describes how this happens, on pp. 206–211.

profit-maximizing corporations, capitalism is not just a scarcity allocation mechanism, but a mechanism for engineering artificial scarcities, as epitomized in the sterile Terminator Seeds developed by Monsanto.⁴ Such seeds are specifically designed so that they can't reproduce themselves, which not only kills cycles of abundance in nature, it also makes farmers permanently dependent on a corporation.

The above analysis suggests that any solution to contemporary capitalism needs to address these three issues in an integral fashion, i.e., production that allows the continued survival, sustainability and flourishing of the biosphere, protecting and promoting the free sharing of social innovations and knowledge, and the recognition that social and economic justice will not be achieved unless we first recognize the actual scarcity of nature and the actual abundance of knowledge and innovation.

Vision, values and objectives

Contemporary society is generally seen as consisting of a public sphere, dominated by the state and public authorities, a private sphere, consisting of profit maximizing corporations, and a subordinated civil society where the less privileged sectors have great difficulties in ascertaining and asserting their rights and interests.

The peer-to-peer vision relies upon the three major sectors of society – the state, market and civil society – but with different roles and in a revitalized equilibrium. At the core of the new society is civil society, with the commons as its main institution, which uses peer production to generate common value outside of the market logic. These commons consist of both the natural heritage of mankind (oceans, the atmosphere, land, etc.), and commons that are created through collective societal innovation, many of which can be freely shared because of their immaterial nature (shared knowledge, software and design, culture and science). Civil society hosts a wide variety of activities that are naturally and structurally beneficial to the commons – not in an indirect and hypothetical way, as claimed by the “Invisible Hand” metaphor, but in a direct way, by entities that are structurally and constitutionally designed to work for the common good. This sphere includes entities such as trusts, which act as stewards of physical resources of common use (land trusts, natural parks), and for-benefit foundations, which help maintain the infrastructure of cooperation for cultural and digital commons.

The Wikimedia Foundation, which maintains the funding for Wikipedia's technological development is a well-known example in the domain of open knowledge. In like fashion, the Linux Foundation and Apache Foundation support two leading software development communities. It is important to note that these entities do not function as classic NGOs that use “command and control” management and salaried personnel to allocate resources to projects, rather, they use their resources and credibility to help paid and unpaid contributors continue to develop their commons according to their own consensus judgments.

⁴ See e.g. Wikipedia entry on genetically modified organisms: http://en.wikipedia.org/wiki/Genetically_modified_organism.

⁵ See <http://www.commonsguide.org/>.

Around this new core is a private sphere, where market entities with private agendas and private governance can still create added-value around the commons by producing relatively scarce goods and services. However, because of the pathological and destructive nature of profit maximizing corporations, in the P2P economy this private sphere is reformed to serve more ethical ends by using proper taxation, revenue and benefit sharing modalities to help generate positive externalities, e.g., infrastructure, shareable knowledge, and by using taxation, competition, and rent-for-use to minimize negative externalities, e.g., pollution, overuse of collective resources.⁵

Cooperative enterprises are the more prominent and developed form of private organization in this new economy. While corporations continue to exist, their operating logic is made to serve the values of the commons. Once the commons and the commoners are at the core of value creation, commoners can be expected to opt for those types of entities that maximize the value system of the commons itself. Today, the open source economy of shared innovation commons and the “ethical economy” of reformed market entities exist as separate spheres. Both need to develop and mature. An early example of this dynamic is IBM's adaptation to the norms and regulations of the Linux community, which showed that even large, old style corporate entities are capable of transforming themselves.

We believe that new forms of cooperative and distributed property will emerge along these lines, a trend explained by Matt Cropp in his article, “The Coming Micro-Ownership Revolution.”⁶ Cropp's article explains the direct link between P2P driven declines in transaction costs and the shift to more distributed forms of ownership. The new corporate forms will no longer be based on shareholder based ownership, but on common capital stock, held by the commoners themselves. These new entities constitute the “third commons” of “created materiality,” i.e. humankind's productive machinery (in other words, capital), which joins the first two commons, the inherited material commons of nature and created “immaterial” cultural commons. The new forms of distributed individual property, which can be freely aggregated into collectives, emulate the free aggregation of effort already dominant in peer production rather than the older forms of collectivized and socialized public property.

How commons “out-compete” by “out-cooperating”

It can be argued that the collaborative economy is hyperproductive in comparison to the traditional industrial-capitalist modality of using a private company, wage labor, and proprietary controls such as patents and copyrights. Commons-based peer production allows rapid sharing of innovation and very low cost mutual coordination on a global scale. It also elicits passionate, voluntary engagement from large networks of contributors as well as rapidly established quick connections between emerging problems and valuable expertise. It is this

⁵ See also Gerhard Scherhag's proposal on pp. 395–401 to design a commons-based competition law.

⁶ See <http://cubiststory.blogspot.com/2011/05/coming-micro-ownership-revolution.html>.

hyperproductive and commons-oriented practices and structures, all as if we were observers to see commons as “out-competing” or “out-cooperating” conventional capitalism, and peer production as an attractive alternative to investments of shareholder and venture capital in private ventures. IBM is a well-known example of the realignment of a classic for-profit enterprise to the new modality of value creation. The company not only decided to use and contribute to Linux, but also to abide by the open development process of Linux, as well as the norms and rules of that community.

Obviously, when we use the concept of *out-competing*, we stress the role that emergent peer production plays in the capitalist, for-profit system, we stress that incorporating community dynamics in the overall production process is a better and more efficient way of doing business. This is exactly the argument of the open source movement, which stresses efficiency. The free software movement, by contrast, stresses the ethical imperative of freedom in both its creative and political sense. To talk about “out-competing” allows one to build bridges to the existing mentalities prevalent in the older institutional forms of corporations and government. By contrast, to talk about “out-cooperating” stresses the “transcendent” aspects of peer production: those aspects which are non-capitalist, perhaps even post-capitalist. It stresses the open and free cooperation of producers who are creating a commons together and its transformative potential.

Civic, market and public spheres

How do we distinguish civil entities from private entities that choose to engage in some sort of social mission? On the one hand, civil entities are dedicated to the commons as a whole and exercise responsibility for its maintenance as an entity or institution, essentially based on non-market-based cooperation, and are organized as nonprofits; on the other hand, the private entities are voluntary associations of commoners that use market activity to create goods and services using a commons in order to guarantee their own individual and communal social reproduction. What joins both of these “sectors” is a common concern for maintaining the commons.

Over and above the civil and market spheres is a public sphere that is responsible for the overall collective good of the whole of society (as even commoners are primarily concerned with “their” commons). The public sector establishes the general parameters and supports in which the commons operates and by which commoners can thrive. The public sector of the P2P economy is neither a corporate welfare state at the service of a financial elite,⁷¹ nor a welfare state that has a paternalistic relation to civil society but a Partner State, which serves civil society and takes responsibility for the metagovernance of the three spheres. The Partner State is dedicated to supporting “the common value creation of the civic sphere”,⁷² the

“market” and the “mission-oriented” activities of the new private sphere, and all the public services that are necessary for the common good of all citizens.

It is very important here to distinguish the market from capitalism. Markets predate capitalism, and are a simple technique to allocate resources through the meeting of supply and demand using some medium of exchange. The allocation mechanism is compatible with a wide variety of other, eventually dominant systems. It is compatible with methods of “just pricing,” full or “true cost accounting” (internalization of all costs), fair trade, etc. It does not require that labor and money be considered as commodities nor that workers be separated from the means of production. Markets can be subsumed to other logics and modalities such as the state or the commons.

Capitalism, on the other hand, considered by some as an “anti-market” (Braudel 1986), requires amongst other features: 1) the separation of producers and the means of production, and 2) infinite growth (either through competition and capital accumulation, as described by Karl Marx, or through compound interest dynamics, as described by Silvio Gesell).

In the vision of a commons-oriented society the market is subsumed under the dominant logic of the commons and regulated by the Partner State. It is just one of the hybrid modalities that is compatible with the commons. This vision does not preclude an evolution of society through which the market may become entirely marginal, and be replaced by resource based economics, for example.⁷³ The important feature is to give commoners and citizens the freedom to choose amongst different mechanisms, and to arrive experimentally at the best solutions for the allocation of scarce resources.

The essential characteristic of the new system is that the commons is the new core, and a variety of hybrid mechanisms can productively coexist around it, including reformed market and state forms.

Individuality, relationality and collectivity

A commons-oriented society is not a return to premodern holism, in which the individual is subsumed to the whole, but rather a society that is based on the recognition of the need for relationality and collectivity of the free and equal individual. It is a society based on cooperative individualism rather than collectivism. Already today, in peer production, we can see how individuals can freely aggregate their contributions in a common project. This is possible because peer producers are much more in control of their own means of production, i.e., their personal creativity, computers, and access to networks. We propose to extend this vision and reality to the totality of the means of production. It should extend to citizen-peer producers so that they can aggregate the resources they need.

71 See Antonio Trancoso's essay on the financialization of natural resources on pp. 147–156.

72 In peer production and shared innovation commons, the value is created in a common pool by the contributors, and not by individuals and corporations acting in a private capacity.

73 See <http://www.peakref.com>.

73 In resource-based economics, resources could flow directly to the place of need, or be exchanged through barter or ledger systems, i.e. without recourse to money. It could be argued that a commons-based networked cooperation, with open book management and hypertransparency, would make the use of money for the exchange of resources obsolete. Indeed, this is one of the main goals of the money-free movement.

including physical and financial capital stock, as well as coordinate their management practices and goals. This aggregation process will be guided by the need to guarantee good living conditions in a sustainable way. In this context, distributed property is a guarantee against the possible misuse of socialized common property, since the individual can also disaggregate and "fork" both his immaterial and material contributions. Most likely, the future commons society will give citizens an equal share of necessary natural resources to draw from, as well as some form of equitably distributed productive capital, giving them a certain independence from concrete and localized physical resources.

How to get from here to there

The animating social force of the commons-based P2P society is that of citizens-workers seeing themselves as autonomous producers of shared knowledge and value. This is the great contribution of knowledge workers and the hacker class to the history of the modern labor and social movements. The innovations of this new sector can and should merge with the historical traditions of resistance, creation and emancipation of the traditional working class and peasantry, as well as the progressive sectors of the other classes.

One way to envisage alliances is to see merging of new constructive peer production communities in all areas of social life – which are producing the seeds of the new society within the old – with the remobilization of mass movements focused on a positive political program that is often lacking in this time of deep capitalist crisis. In other words, the convergence of the communities dedicated to the "construction of the new" and "resistance to the old" provides the energy and imagination for a new type of policy formulation, one that can recreate a global reform and transformation movement.

Another way to envisage future political and cultural alliances is to see them as a confluence of various global forces: 1) those working against the enclosure and the privatization of knowledge, which are simultaneously constructing new knowledge commons; 2) those working for environmental sustainability including the protection of existing physical commons; and 3) those working for social justice on a local and global scale. In other words, we need a global alliance between the new "open" movements, the ecological movements, and the traditional social justice and emancipatory movements, in order to create a "grand alliance of the commons."

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Knowledge is the Water of the Mind: How to Structure Rights in “Immaterial Commons”

by Rainer Kuhlen

There is a simple ethical foundation for open access to and free usage of basic resources such as air and water: the mere existence and the development of every human being depend on them. But even fundamental ethical principles and human rights do not always prevail in real life. In history and even now, many knowledge and information resources are claimed as exclusive private property – that is, an owner has the right to exclude others from access to and usage of the property object.

But aren't there some promising signs that history is not only, as Hegel has claimed, a development of freedom for the few to freedom for all, but also a development of the right of the few to control basic resources to the right of everyone to have such access and use?

Access must be sustainable: of course the resource cannot be allowed to be overused. So a major challenge is how to make free and open access compatible with sustainability. In the following pages, I suggest applying the concept of sustainability, a basic concept of ecology, to knowledge. In doing this, I will also claim that the idea of a “knowledge economy” and “knowledge ecology” are compatible.

Ecology in general is concerned with the sustainability of natural resources by protecting them from overuse. A knowledge ecology is also concerned with sustainability, but with the sustainability of immaterial goods. This cannot be achieved by making knowledge a scarce resource, but only by providing open access to and free use of it on open platforms.

This redefinition of sustainability stems from the differing character of water and knowledge as goods. Knowledge is not consumed or exhausted when used. On the contrary, the more it is used, the more it benefits many people, and the greater the likelihood that new knowledge will be produced from existing knowledge. Such access and reuse makes knowledge sustainable not only for the present but also for future generations.

Knowledge ecology can therefore be defined as the sustainable treatment of knowledge and information (Kuhlen 2004). It is still a new and controversial concept. But there might be a consensus that what I call “immaterial commons” have the same ethical foundation as natural resources. Everyone needs them. Water (let us take it as a symbol of all other basic natural material resources) is essential

for the existence of all human beings and for life in general. Yet human life also depends on permanent supplies of immaterial goods such as knowledge, information and culture. In this sense, knowledge is the equivalent of water. Thus is what I have in mind with the aphorism: *Knowledge is the water of the mind*. Water for physical survival and knowledge for intellectual development.

What is true for water is also true for knowledge. Both can be subject to exclusive private property rights. More accurately, access to knowledge has always, at least in modern Western societies, been subject to private appropriation through private intellectual property rights. As the reality of commercial information markets shows, people can very successfully be excluded from open, unrestricted access to knowledge.

Knowledge as a common-pool resource and (access to) knowledge as a commons

Since the groundbreaking volume by Charlotte Hess and Elinor Ostrom (2007), knowledge has been increasingly considered as part of the commons, even though most academic literature still focuses on material, not immaterial commons. To be more precise and use a distinction that Elinor Ostrom takes pains to make, knowledge is part of the common heritage of humankind and thus a common pool resource (CPR), but it is not necessarily a commons. Knowledge is the result of human development and the ensemble of intellectual activities that has been made publicly available in whatever media form, thus making it a very prominent common pool resource. But that CPR need not be managed as a commons; it can conceivably be managed by the private rights holders or the state, for example.

"Knowledge," as understood in the literature, generally refers to "all intelligible ideas, information, and data in whatever form in which it is expressed or obtained" (Ostrom and Hess). In our understanding (different only slightly from Ostrom and Hess, but with major consequences), knowledge is primarily a cognitive concept, and cognitive concepts and theories, originally mental structures in the creators' minds, are only accessible, communicable and usable when they are represented in a media form. But the representation itself is not knowledge. Strictly speaking, a book is not a knowledge object; rather it contains knowledge. A piece of music is not a knowledge object; it contains an idea of what the composer had in mind. From an information science point of view, we should avoid the term "knowledge objects" and rather speak of "information objects" when referring to objects that represent knowledge in some kind of media and that are made publicly available and are thus capable of communication and usage. Books, pieces of music and films are information objects that can be traded on commercial information markets or can be freely exchanged in open environments.

It is not our intention to insist on this rather sophisticated distinction between knowledge and information (Kühlen 1991) and correspondingly knowledge objects and information objects. Therefore, in the following we will for the most part use the abbreviation k&i (knowledge and information) and occasionally use knowl-

edge as a general term for a rather broad knowledge information keeping in mind that knowledge refers primarily to a common-pool resource, whereas knowledge as a common pool resource (that age- and time-invariant, producing to the pool resource) is in fact accessible and usable information.

This distinction has some consequences for "excludability" and the right to property. There is general consensus that knowledge itself is not protected by copyright nor by the European "Urheberrecht" (authors' right). Once knowledge is made publicly available in the world, it is in principle open and free to everyone. This is an important and fundamental right, but useless if access to knowledge is withheld or not made possible. In reality access to knowledge, not to mention its free usage, depends on the ways that knowledge is made visible (transformed into information objects in whatever media form) by whom and with what intentions. It also matters how these information objects are disseminated and made available for use, and under which conditions.

How to structure rights in immaterial commons

It is important to remember the distinction between common-pool resources and the commons that Elinor Ostrom has pointed out. Common pools of physical natural resources are provided to us by nature. Immaterial pools are the result of human development and/or the common heritage of humankind.

Each society at any given time in history has developed ways for making common-pool resources accessible and usable and also for protecting them against overuse and ensuring that they are available and useful for future generations. In the language of institutional economics, common-pool resources only become a commons when they are institutionalized.

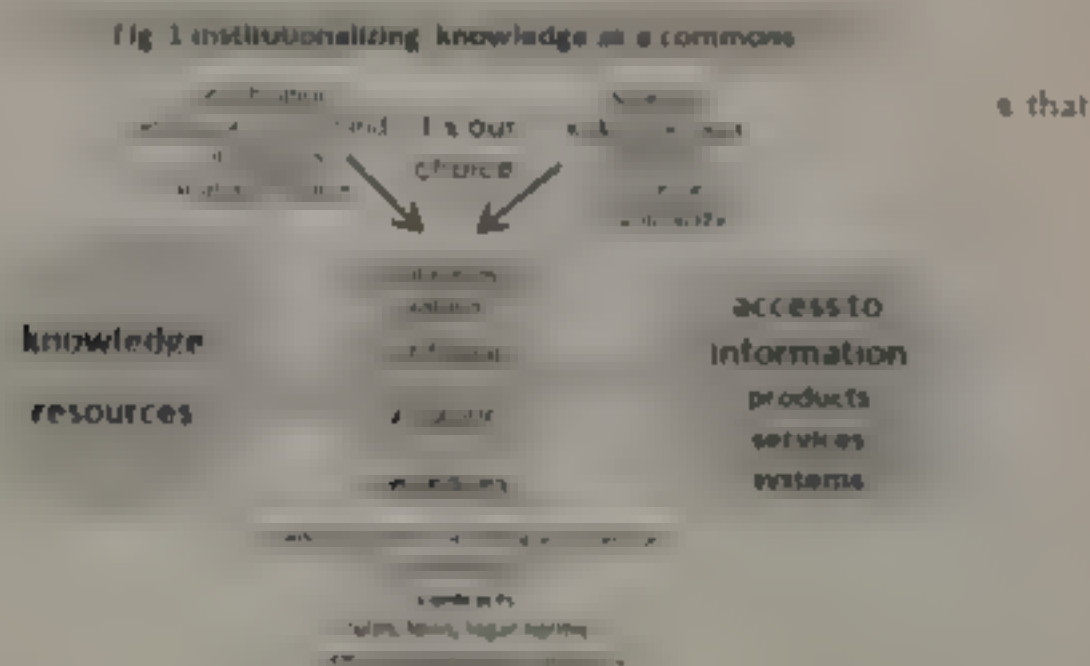
The institutionalizing forms are highly dependent on culture and on people's interests, however. They are also driven by the media and technology environments available at any given period of history and thus are subject to change. For instance, the analog world of the Gutenberg print paradigm makes knowledge visible, accessible, communicable and usable in different ways than electronic technologies in the Internet do. Changes in media and the technology environment have also influenced moral behavior – for instance, who can claim authorship and ownership of k&i, and with different implications for access and usage, for who is willing to share k&i, and who will seek to enclose it. The media and technology environment also influences the way political power and economic interests are structured and justified; in modern times, this occurs mainly through laws and the regulations for intellectual property rights.

The ways that commons are built and institutionalized are also affected by technology and the principles and procedures for administer it. Commons are not hieratic with characteristics given by nature or by religion, but rather, to put it in the terms of modern sociology, they are *socially constructed*. They are based on common, normative understandings. From an ethical point of view, the ways in which knowledge as a CPR is institutionalized into a knowledge commons are appropriate if they contribute, just in law and sustainable form, to a higher or the highest possible number of people.

There is obviously a clear dichotomy between widespread social norms for the production and use of *kāi* that have been developed in electronic environments, and the dominant organizational and economic principles that govern the production of information goods in international information markets. There is not necessarily a contradiction between the institutionalization of *kāi* driven by economic self-interests and social norms. But at the moment there is a large chasm between the two and some deep incompatibilities.

For commercial actors, *kāi* must be made to be scarce objects to which access is controlled and limited, mainly by price, technical barriers and/or legal (copyright) constraints. Whatever objections we may have from a theoretical point of view, commercial publishing procedures serve to institutionalize knowledge. The knowledge production takes the form of a private goods regime, however, not a commons.

Figure 1 visualizes these alternative ways of institutionalizing knowledge, although it is surely too simple (as suggested by the illustration) to believe that modern societies have a free choice between an ethically driven approach and an economically driven one.



Institutionalizing knowledge as a commons is not an appropriate means to further economic innovation or to stimulate suitable *kāi* business models for electronic environments. For a long time, the state of technological development justified the creation of a business model for *kāi* primarily through copyright and patent law. One consequence was that only those who had the methodical know-how and capital to use the technology could produce and distribute information products. But the technological production of information products is no longer viable in today's world of distributed, networked computing. As the Barcelona Charter issued by digital activists notes:

citizens, artists and consumers are no longer powerless and isolated in the face of the content production and distribution industries: now individuals across many different spheres collaborate, participate and decide in a direct and democratic way! "Free culture" ("free" as in "freedom" not as "for free") opens up the possibility of new models for citizen engagement in the provision of public goods and services. These are based on a 'commons' approach. Governing of the commons honors participation, inclusion, transparency, equal access, and long-term sustainability. (Barcelona Charter 2010)

In addition, current information market models show different forms of aporia: a puzzling uncertainty about how to move forward. It is therefore necessary to develop new models for the production, distribution and usage of *kāi*. Any new model must take into account the following factors:

- Information market failure is becoming more and more evident, particularly with respect to science and education, the traditional intermediaries that guaranteed free access to *kāi*, e.g., universities, libraries, often can no longer afford to buy or lease commercial information products, or their services are limited and constrained by copyright regulation and/or by digital rights management (DRM).
- The public and people involved in science and education are no longer able or willing to buy or lease information that they themselves may have produced and peer-reviewed: they may want appropriate compensation from publishers or the ability to self-publish their information.
- Producers of *kāi* feel increasingly uncomfortable with the ways that commercial information markets try to disable people's "information autonomy" – i.e. how works may be used by others and what they expect as fair remuneration.

Finally, and most importantly, there is a shift in normative attitudes towards *kāi*: *kāi* objects are increasingly considered open, not proprietary, objects.

- Actors in open environments tend to share the resources they need to produce *kāi* and, consequently, they appreciate and take advantage of the value-added effects of working collaboratively.
- Producers of *kāi* believe that *kāi* are part of the public sphere and thus can be freely used so long as moral rights (chiefly attribution) and, sometimes, the privacy of the producers are respected.
- Users of *kāi* usually agree to attribute authorship of *kāi* objects they use to the original producers. They also accept that the *kāi* they produce by using open *kāi* will be made available under the same conditions as they enjoyed, i.e., giving the same usage/exploitation rights to other users.
- Producers and users of *kāi* feel responsible for the sustainability of *kāi* so that future generations can benefit from it.

- Given the increasingly open, collaborative and derivative nature of k&u production, does it still make sense to speak of individual intellectual property rights (IPR) rather than common IPR?
- Is there a need for new types of property rights now that knowledge is increasingly produced collaboratively? After all, two pillars of copyright law – the concept of single authorship and that of the final, unchangeable work – have become more and more obsolete
- Which property rights should the public have to commons objects such as k&u? Is there a need for compensating the public when the knowledge that belongs to a commons is exploited for commercial usage? And if so, what kind of compensation is adequate? Or will the model of the future be that the public, in addition to covering the cost for the production of knowledge, finances commercial OA publishing as it has done by financing libraries?
- Which rights should authors who create new content have? Are the moral rights (primarily attribution of authorship) sufficient, or should an appropriate remuneration system be established?
- Is it still appropriate for the state to regulate processes for knowledge commons, for instance via patent or copyright laws? Or should it be up to the commonsers themselves to organize k&u processes, rules and enforcement systems?

In this essay we have concentrated primarily but not exclusively on knowledge in science and education environments, and also on institutionalizing forms via formal procedures such as copyright law. This is obviously a rather reductionist approach. Knowledge as an immaterial commons has a much broader range, and there are many ways of transforming knowledge as a common-pool resource into an accessible and usable commons. The debate on how best to institutionalize knowledge as an immaterial commons is still open.

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$$\begin{aligned} T_1 &= \frac{1}{2} \rho \int_{\Omega} |\nabla u|^2 dx \\ T_2 &= \frac{1}{2} \rho \int_{\Omega} |\nabla v|^2 dx \\ T_3 &= \frac{1}{2} \rho \int_{\Omega} |\nabla w|^2 dx \end{aligned}$$

Peter Ellward Australian physicist

PART FIVE

ENVISIONING A COMMONS-BASED POLICY AND PRODUCTION FRAMEWORK

Green Governance: Ecological Survival, Human Rights and the Law of the Commons

By David Bollier and Burns H. Weston

At least since Rachel Carson's *Silent Spring*, we have known about humankind's squandering of nonrenewable resources, its careless disregard of precious life species and its overall contamination and degradation of delicate ecosystems. In recent decades, these defilements have assumed a systemic dimension. Lately we have come to realize the shocking extent to which our atmospheric emission of carbon dioxide and other greenhouse gases threatens Planet Earth.

If the human species is going to overcome the many interconnected ecological catastrophes now confronting us, this moment in history requires that we entertain some bold modifications of our legal structures and political culture. We must find the means to introduce new ideas for effective and just environmental protection – locally, nationally, regionally, globally, and points in between.

We believe that effective and just environmental protection is best secured via *commons- and rights-based ecological governance*, operational from local to global and administered according to principles rooted in respect for nature and fellow human beings. We call it “green governance.” We also believe that the rigorous application of a reconceptualized human right to a clean and healthy environment (or “right to environment”) is the best way actually to promote environmental well-being while meeting everyone's basic needs.

Making the transition to a new paradigm

It is our premise that human societies will not succeed in overcoming our myriad eco-crises through better “green technology” or economic reforms alone. We must pioneer new types of *governance* that allow and encourage people to move from anthropocentrism to biocentrism, and to develop qualitatively different types of relationships with nature itself and – indeed – with each other. An economics and supporting civic polity that valorizes growth and material development as the precondition for virtually everything else are ultimately a dead end – literally.

Achieving a clean, healthy and ecologically balanced environment requires that we cultivate a practical governance paradigm based on, first, a logic of respect for nature, sufficiency, interdependence, shared responsibility and fairness among all human beings; and, second, an ethic of integrated global and local citizenship that

insists upon transparency and accountability in all activities affecting the integrity of the environment.

We believe that commons- and rights-based ecological governance – green governance – can fulfill this logic and ethic. Properly done, it can move us away from the neoliberal State and Market alliance – what we call the “State/Market” – which is chiefly responsible for the current, failed paradigm of ecological governance. (We capitalize “State,” “Market,” and Commons here when referring to them as systems of governance and power.)

The basic problem is that the price system, seen as the ultimate governance mechanism of our polity, fails short in its ability to represent notions of value that are subtle, qualitative, long-term and complicated. These are, however, precisely the attributes of natural systems. The price system has trouble taking account of qualitatively different types of value on their own terms, most notably the “carrying capacity” of natural systems and their inherent usage limits. Exchange value is the primary if not the exclusive concern. This, in fact, is the grand narrative of conventional economics. Gross Domestic Product represents the sum total of all market activity, whether that activity is truly beneficial to society or not. Conversely, anything that does not have a price and exists “outside” the market is regarded (for the purposes of policymaking) as having subordinate or no value.

What is more, it is an open secret that various industry lobbies have captured if not corrupted the legislative process in countries around the world, and that the regulatory apparatus, for all its necessary functions, is essentially incapable of fulfilling its statutory mandates, let alone pioneering new standards of environmental stewardship. Further, regulation has become ever more insulated from citizen influence and accountability as scientific expertise and technical proceduralism have come to be more and more the exclusive determinants of who may credibly participate in the process. Given the parameters of the administrative State and the neoliberal policy consensus, truly we have reached the limits of leadership and innovation within existing institutions and policy structures.

Still, it will not be an easy task to make the transition from State/Market ecological governance to commons- and rights-based ecological governance. Green governance is, indeed, a daunting proposition. It entails serious reconsideration of some of the most basic premises of our economic, political and legal orders, and of our cultural orders as well. It requires that we enlarge our understanding of “value” in economic thought to account for nature and social well-being, that we expand our sense of human rights and how they can serve strategic as well as moral purposes, that we liberate ourselves from the limitations of State-centric models of legal process, and that we honor the power of non-market participation, local context, and social diversity in structuring economic activity and addressing environmental problems.

Of course, there is also the deeper issue of whether contemporary civilization can be persuaded to disrupt the status quo to save our “lonely planet.” Much will depend on our ability to articulate and foster a coherent new paradigm of ecological stewardship. Fortunately, there are some very robust, encouraging developments

now beginning to flourish on the periphery of the mainstream political economy. These include insurgent schools of thought in economics, ecological management, and human rights aided by fledgling grassroots movements, e.g., the Occupy movement and Internet communities. Although disparate and irregularly connected, each seeks in its own way to address the many serious deficiencies of centralized governments (corruption, lack of transparency, rigidity, a marginalized citizenry) and concentrated markets (externalized costs, fraud, the bigger-better-faster ethos of material progress). Taken together, these trends suggest the emergent contours of a new paradigm of ecological governance.

For all their power and potential, however, none of these movements or their visions can prevail without some serious grounding in law. And in this regard we believe the legal and moral claims of human rights can be the kind of powerful mobilizing discourse that is needed for real change. Human rights can provide a broad, flexible platform and a respected legal framework for asserting the right of everyone to a clean and healthy environment.

The human right to a clean and healthy environment

Human rights signal a public order of human dignity for which environmental well-being is essential. They consequently challenge and make demands upon State sovereignty, and upon the parochial agendas of private elites as well. They trump most other legal obligations, being juridically more elevated than commonplace “standards,” “laws,” or mere policy choices. And they carry with them a sense of entitlement on the part of the rights-holder, and thus facilitate legal and political empowerment.

For these and other reasons, we believe that the human right to a clean and healthy environment can be a powerful tool for imagining and securing a system of ecological governance in the common interest. But there are skeptics who say that the right does not exist except in moral terms – that it lacks the elements of authority and/or control requisite to making it count as law. Are they right? The answer is both “yes” and “no.”

According to the law of the State system, there are at least three ways in which the human right to environment is today officially recognized juridically:

- As an *entitlement derived from other recognized rights*, centering primarily on the substantive rights to life, to health and to respect for private and family life, but embracing occasionally other perceived surrogate rights as well – e.g., habitat, property, livelihood, culture, dignity, equality or nondiscrimination, and sleep.
- As an *entitlement autonomous unto itself*, dependent on no more than its own recognition and increasingly favored over the derivative approach insofar as national constitutional and regional treaty prescriptions proclaiming such a right are evidence, and
- As a *cluster of procedural entitlements* generated from a “reformulation and expansion of existing human rights and duties” (akin to the derivative

substantive rights noted first above) and commonly referred to as "procedural environmental rights," i.e., the right to environmental information, to participation in decisionmaking, and to administrative and judicial recourse.

A careful review of each of these official manifestations of the right to environment around the world reveals that, however robust in their particularized applications, they are essentially limited in their legal recognition and jurisdictional reach. It also shows that, as part of our legal as well as moral inheritance, the right to environment needs to be taken extra seriously. For this to happen – indeed for Earth itself to survive and be hospitable to life upon it – the right must be reimagined and reinvigorated, and as soon as possible.

Juridically, this right is most strongly recognized in its derivative form, i.e., derived from other recognized legal rights, rather than in its autonomous form, i.e., legally recognized in its own right. When framed autonomously, interestingly, the right is found to exist principally – indeed, almost exclusively – in the developing worlds of Africa, Asia, and Latin America. There is also a growing sentiment (primarily at the regional level so far) to recognize procedural environmental rights.

But at bottom, it seems that as long as ecological governance remains in the grip of essentially unregulated (liberal or neoliberal) capitalism, there never will be a human right to environment – certainly not an autonomous one, widely recognized and honored across the globe in any formal or official sense.

In recent years, however, two attractive alternative approaches have emerged. The first approach – intergenerational environmental rights – though firm in legal theory, relies heavily on its ability to appeal to the moral conscience. The second – nature's environmental rights – pioneered by the governments of Ecuador and Bolivia, chooses to alter the procedural playing field altogether. These nations assert that nature has legal rights of its own that must be defended by human surrogates.

Both these approaches go beyond the narrow anthropocentrism of existing law. In their legal character they are autonomous rights rather than derivative rights. They look to claimant surrogates to enforce the rights. And they are asserted primarily at the official, national and subnational levels. Politically, both approaches reflect a deep frustration with the environmental community's conventional terms of advocacy and with the formal legal order's deep commitments to neoliberalism.

However, barring some game-changing ecological disaster, huge economic and political forces will continue to resist these innovative legal gambits for reasons that are both historical and philosophical. Green governance that looks to the Commons points toward a different approach for securing a right to a clean and healthy environment. It calls for the establishment of a new procedural environmental right, *the human right to commons and rights-based ecological governance*.

The commons as a model for ecological governance

A commons is a regime for managing common pool resources that eschews individual property rights and State control. It relies instead on common property arrangements that tend to be self-organized and enforced in complex, idiosyncratic social ways. A commons is generally governed by what we call *Vernacular Law* – the "unofficial" norms, institutions, and procedures that a peer community devises to manage community resources on its own, and typically democratically. State Law and action may set the parameters within which Vernacular Law operates, but it does not directly control how a given commons is organized and managed.

In this way, the Commons operates in a quasi-sovereign manner, similar to the Market but largely escaping the centralized mandates of the State and the logic of Market exchange while mobilizing decentralized participation "on the ground." In its broadest sense, the Commons could become an important vehicle for securing a right to environment at local, regional, national, and global levels. But this role will require innovative legal and policy norms, institutions and procedures to recognize and support Commons as a matter of law.

The Commons represents an advance over existing governance because it gives us practical ways of naming and protecting value that the market is incapable of doing, and, as already noted, in an essentially democratic manner. For example, the Commons gives us a vocabulary for talking about the proper limits of Market activity – and for enforcing those limits. Commons discourse helps force a conversation about the "market externalities" that often are shunted to the periphery of economic theory, politics and policymaking. It asks questions such as: How can appropriate limits be set on the market exploitation of nature? What legal principles, institutions, and procedures can help manage a shared resource fairly and sustainably over time, sensitive to the ecological rights of future as well as present generations?

The paradigm of green governance is compelling because it comprises at once a basis in rich legal tradition that extends back centuries, an attractive cultural discourse that can organize and personally energize people, and a widespread participatory social practice that, at this very moment, is producing practical results in projects big and small, local and transnational.

The history of legal recognition of the Commons, and thus the commonsers' right to the environment, goes back centuries and even millennia. There were forestry conservation laws in effect as early as 1700 B.C. Pharaoh Akhenaten established nature reserves in Egypt in 1370 B.C. Hugo Grotius, often called the father of international law, argued in his famous treatise *Mare Liberum* (1609) that the seas must be free for navigation and fishing because the law of nature prohibits ownership of things that appear "to have been created by nature for common things" (Baslar 1998).¹ Antarctica has been managed as a stable, durable inter-governmental commons since the ratification of the Antarctic Treaty in 1959, enabling international scientists to cooperate in major research projects without

1. See also the essay by Prue Taylor on pp. 353–360.

the threat of military conflict over territorial claims. The Outer Space Treaty of 1967 declares outer space, the moon and other celestial bodies to be the "province of all mankind" and "not subject to national appropriation...."

Commons have been a durable transcultural institution for assuring that people can have direct access to and use of, natural resources, or that government can act as a formal trustee on behalf of the public interest - what we call "State trustee commons." Commons regimes have acted as a kind of counterpoint to the dominant systems of power because, though the structures of State power have varied over the centuries (tribes, monarchies, feudal estates, republics) managing a forest, fishery or marshland as a commons addresses certain ontological human wants and needs that endure: the need to meet one's subsistence needs through cooperative uses of shared resources; the expectation of basic fairness and respectful treatment; and the right to a clean, healthy environment.

In this sense, the various historical fragments of what may be called "commons law" (not to be confused with the common law) constitute a legal tradition that can advance human and environmental rights. These regimes speak to the elemental moral consensus that all the creations of nature and society that we inherit from previous generations should be protected and held in trust for future generations.

In our time, the State and Market are seen as the only credible or significant forces for governance. But in fact the Commons is an eminently practical and versatile mode of governance for ecological resources, among many other forms of shared wealth. The viability of the Commons has been overlooked not just because of the persistence of the Hardin "tragedy" parable and the overbearing power of the State/Market, but because the Commons exists in so many forms and is managed by so many different types of commoners.

Imagining a new architecture of law and policy to support the ecological commons

For a shift to this paradigm to take place, State law and public policy must formally recognize and support the ecological commons that now exist and the new ones that must be created. By such means, the State, working with civil society, could facilitate the rise of a Commons Sector: an eclectic array of commons-based institutions, projects, social practices, and values that advance the policy of collective action. Extending to the Commons the legal recognition and generous backing the "free state" and "free market" have enjoyed for generations would unleash tremendous energy and creativity needed to provide better institutional rewards up and equated. Such recognition of Commons could also help transform the State and Market in many positive ways, not least by checking the cronyism, corruption and secrecy that currently mark each.

If the Commons is going to achieve its promise as a governance template, however, there must be a suitable architecture of law and policy to support it. We believe that innovations in law and policy are needed in three distinct fields:

1. *General internal governance principles and policies* that can guide the development and management of commons.
2. *Macro-principles and policies* - laws, institutions and procedures - that the State/Market can embrace to develop commons and "peer governance" and
3. *Catalytic legal strategies* that commoners (civil society and distinct communities) the State, and international intergovernmental bodies can pursue to validate, protect and support ecological commons thus defined.

General internal governance principles and policies. Ostrom's eight core design principles, first published in 1990, remain the most solid foundation for understanding the internal governance of commons as a general paradigm. In a book-length study published in 2010, Poteete, Janssen and Ostrom summarize and elaborate on the key factors enabling self-organized groups to develop collective solutions to common-pool resource problems at small to medium scales:

Among the most important are the following: 1) reliable information is available about the immediate and long-term costs and benefits of actions, 2) the individuals involved see the resources as important for their own achievements and have a long-term time horizon, 3) gaining a reputation for being a trustworthy reciprocator is important to those involved, 4) individuals can communicate with at least some of the others involved, 5) informal monitoring and sanctioning is feasible and considered appropriate, and 6) social capital and leadership exist related to previous successes in solving joint problems (Poteete, Janssen and Ostrom 2010).

Ostrom notes that "extensive empirical research on collective action" has repeatedly identified a necessary central core of trust and reciprocity among those involved that is associated with successful levels of collective action." In addition, "when participants fear they are being 'suckers' for taking costly actions while others enjoy a free ride," it enhances the need for monitoring to root out deception and fraud.

If any commons is to cultivate trust and reciprocity and therefore enhance its chances of stable collective management, its operational and constitutional rules must be seen as fair and respectful. To that end, ecological commons must embody the values of human dignity as expressed in, optimally, the Universal Declaration of Human Rights and nine core international human rights conventions that have evolved from it or those of them as may be applicable. As this suggests, both human rights and nature's rights are implicit in ecological commons governance.

Macro-principles and policies. For larger-scale common-pool resources - national, regional, global - the State must play a more active role in establishing and overseeing commons. The State may have an indispensable role to play in instances where a resource cannot be easily divided into parcels (the atmosphere, oceanic fisheries) or where the resource generates large rents relative to the surrounding economy e.g. petroleum. In such cases, it makes sense for the State to intervene and devise appropriate management systems. *State trustee commons*

typically manage hard and soft minerals, timber, and other natural resources on public lands, national parks and wilderness areas, rivers, lakes and other bodies of water. State-sponsored research, and civil infrastructure, among other things.

In such circumstances, however, there is a structural tension between commoners and the State/Market because the State has strong economic incentives to forge deep political alliances with the Market and thus promote an agenda of privatization, commoditization and globalization despite the adverse consequences for ecosystems and commoners. Any successful regime of commons law must therefore recognize this reality and take aggressive action to ensure that the State/Market does not betray its trust obligations, particularly by colluding with market players in acts of enclosure.

The overall goal must be to reconceptualize the neoliberal State/Market as a "triarchy" with the Commons – the State/Market/Commons – to realign authority and provisioning in new, more beneficial ways.⁵ The State would maintain its commitments to representative governance and management of public property just as private enterprise would continue to own capital to produce saleable goods and services in the Market sector. But the State must shift its focus to become a "Partner State," as Michel Bauwens puts it, not just of the Market Sector but also of the Commons Sector.⁶

Catalytic legal strategies. Perhaps the most significant challenge in advancing commons governance is the liberal polity's indifference or hostility to most collectives (corporations excepted). Accordingly, commoners must use ingenious innovations to make their commons legally cognizable and protected. Since legal regimes vary immensely around the world, our proposals should be understood as general approaches that obviously will require modification and refinement for any given jurisdiction. Still, there are a number of legal and activist interventions that could help advance commons governance in select areas:

- Devising ingenious adaptations of private contract and property law is a potentially fruitful way to protect commons. The basic idea is to use conventional bodies of law serving private property interests, but invert their purposes to serve collective rather than individual interests. The most famous example may be the General Public License, or GPL, which copyright owners can attach to software in order to assure that the code and any subsequent modifications of it will be forever accessible to anyone to use.⁷ The GPL was a seminal legal innovation in helping to establish commons for software code.
- A number of examples of eco-minded trusts serving the interests of indigenous peoples and poorer countries could emulate private-law

work-arounds to property and contract law in order to create new commons. One example is the Global Innovation Commons, a massive international database of lapsed patents that enables anyone to manufacture, modify and share ecologically significant technologies.⁸

- The "stakeholder trust" could be used to manage and lease ecological resources on behalf of commoners, with revenues being distributed directly to commoners. This model is based on the Alaska Permanent Fund, which collects oil royalties from state lands on behalf of the state's households. Some activists have proposed an Earth Atmospheric Trust to achieve similar results from the auctioning of rights to emit carbon emissions.
- Some of the most innovative work in developing ecological commons (and knowledge commons that work in synergy with them) is emerging in local and regional circumstances. The reason is simple: the scale of such commons makes participation more feasible and the rewards more evident. Salient examples are being pioneered by the "re-localization movement" in the US and UK, and by the Transition Town movement in more than 300 towns worldwide.⁹
- Federal and provincial governments have a role to play in supporting commons formation and expansion. State and national governments usually have commerce departments that host conferences, assist small businesses, promote exports and so on. Why not analogous support for commons? Governments could also help build translocal structures that could facilitate local and subnational commons, such as Community Supported Agriculture and the Slow Food movement, and thereby amplify their impact.
- The public trust doctrine of environmental law can and should be expanded to apply to a far broader array of natural resources, including protection of the Earth's atmosphere. This would be an important way to ensure that States act as conscientious trustees of our common ecological wealth.
- Various digital networking technologies now make it possible to reinvent the administrative process to be more transparent, participatory and accountable – or indeed, managed as commons. For example, government wikis and "crowd-sourcing" platforms could help enlist citizen-experts to participate in policymaking and enforcement. "Participatory sensing" of water quality and other environmental factors could be decentralized to citizens with a stake in those resources.

5. For a more detailed discussion of this triarchy, see the P2P Foundation blog, at <http://blog.p2pfoundation.net/the-triarchy-of-the-commons/2010/06/10>, especially in his *Capitalism 3.0: A Guide to Reclaiming the Commons* (2006).

6. See essay by Michel Bauwens on pp. 175–178.

7. See Benjamin Mako Hill's essay on free software on pp. 305–308.

8. See David Martin's essay on public-domain technologies on pp. 314–318.

9. See Geert Wessing's essay on the Transition movement on pp. 239–242.

Moving forward

It might be claimed that green governance is a utopian enterprise. But the reality is that it is the neoliberal project of ever-expanding consumption on a global scale that is the utopian, totalistic dream. It manifestly cannot fulfill its mythological vision of human progress through ubiquitous market activity. It simply demands more than nature can deliver, and it inflicts too much social inequity and disruption in the process. The first step toward sanity requires that we recognize our myriad ecological crises as symptoms of an unsustainable cultural, socio-economic and political worldview.

Moving to green governance will entail many novel complexities and imponderable challenges. Yet there is little doubt that we must re-imagine the role of the State and Market, and imagine alternative futures that fortify the Commons Sector. We must gird ourselves for the ambitious task of mobilizing new energies and commitments, deconstructing archaic institutions while building new ones, devising new public policies and legal initiatives, and cultivating new understandings of the environment, economics, human rights, governance, and commons.

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This essay is derived from a longer treatise available at The Commons Law Project, at <http://www.commonslawproject.org>. Bollier and Weston will publish a book on this topic: *Green Governance*, in early 2013 (Cambridge University Press).

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The Common Heritage of Mankind: A Bold Doctrine Kept Within Strict Boundaries

By Prue Taylor

The "common heritage of mankind" is an ethical concept and a general concept of international law. It establishes that some localities belong to all humanity and that their resources are available for everyone's use and benefit, taking into account future generations and the needs of developing countries. It is intended to achieve aspects of the sustainable development of common spaces and their resources, but may apply beyond this traditional scope.

When first introduced in the 1960s, the "common heritage of mankind" (CHM) was a controversial concept, and it remains so to this day. This controversy includes issues of scope, content and status, together with CHM's relationship to other legal concepts. Some commentators consider it out of fashion due to its lack of use in practice, e.g. for mining of seabed resources, and its subsequent rejection by modern environmental treaty regimes. In contrast, other commentators consider it a general principle of international law with enduring significance.

Escalating global ecological degradation and ongoing inability to arrest the so-called tragedy of the commons (Hardin 1968) will ensure the continued relevance of the common heritage concept, despite the difficulties surrounding its acceptance by states. Evidence for this can be found in a range of efforts to apply CHM to natural and cultural heritage, marine living resources, Antarctica and global ecological systems such as the atmosphere (Tavlor 1998) or climate system.

Origins of the principle

Legal discussion of CHM generally begins with the speech of the Maltese ambassador Arvid Pardo (1914–1999) to the United Nations in 1967. In this speech he proposed that the seabed and ocean floor beyond national jurisdiction be considered the CHM. This was an important event that triggered the later negotiation of the 1982 Law of the Sea Convention (UNCLOS III) and other legal developments that subsequently earned Arvid Pardo the title "father of the law of the sea." But CHM has a much longer history, and Pardo drew upon this in developing CHM as a legal concept for the oceans. Other people, including the writer and environmentalist Elisabeth Mann Borgese (1918–2002) considered CHM an ethical concept central to a new world order based on new forms of cooperation, economic theory and philosophy. This history is important to

in articulating the ethical core of the CHM, the responsibility to protect and care for and protect the environment of which we are a part for present and future generations.

A 1948 draft World Constitution provided that the Earth and its resources were to be "conserved properly and kind managed for the good of all." Restrictions on the use of nuclear technology and resources, for military and peaceful purposes, also led to an early proposal that nuclear resources be collectively owned and managed, and not owned by any one state. Traces of CHM are also found in the U.N. Outer Space Treaty (1967), which governs state exploration and use of outer space, the moon, and other celestial bodies. CHM, however, achieved prominence in the context of the evolving law of the sea. The 1967 World Peace through Law Conference referred to the high seas as "the common heritage of mankind" and stated that the seabed should be subject to U.N. jurisdiction and control.

Revolutionizing the law of the sea

Concern about the impact of new technologies upon the oceans, militarization and expanding state claims to ownership of parts of the oceans (e.g., continental shelf and exclusive economic zones, together with growing economic disparity and associated harm to long-term human security, prompted Arvid Pardo to develop the idea that all ocean space (i.e., surface of the sea, water column, seabed and its subsoil, and living resources, should be declared the CHM, irrespective of existing claims to national jurisdiction.

The intention was to replace the outdated legal concept of "freedom of the high seas" by proclaiming ocean areas an international commons. (Areas with significant natural resources that are acknowledged to be beyond the limits of the national jurisdiction of sovereign states are known as international commons.) Freedom of the high seas, developed by the Dutch jurist Hugo Grotius (1583–1645), creates an open access regime allowing for its *laissez faire* use. The few restrictions that exist serve only to protect the interests of other states and their exercise of free use.

In contrast, as the CHM, ocean space and its resources would be a commons that could not be owned by states beyond a certain limit. As a commons it would be open to the international community of states, but its use would be subject to international administration and management for the common good of all humanity. Where areas of ocean space and resources existed within national jurisdiction, states would regulate and manage use on behalf of all mankind, not solely for the benefit of national interests.

This approach recognized the unity of the oceans as ecological systems and rejected both *laissez-faire* freedom and unfettered state sovereignty. It included efforts to simplify ocean jurisdiction, by establishing one single mechanism for allocation between national and international ocean space (United Nations Outer Space Treaty, 1967) and prevent gradually expanding claims to national jurisdiction.

The CHM was originally intended as a concept that would revolutionize the law of the sea by applying to all ocean space and resources. But in 1967 Arvid Pardo recognized that this would be rejected by the powerful states who were attempting to extend their sovereign claims to more ocean space and resources. By focusing

on the legal status of the much more limited entity of the "seabed" beyond national jurisdiction, it was thought that CHM could gain an important foothold within the U.N. system.

The 1967 Maltese proposal led to a number of important developments, including the 1970 U.N. General Assembly Declaration of Principles Governing the Sea-Bed and the Ocean Floor and the Subsoil Thereof, Beyond the Limits of National Jurisdiction. This declaration set out the legal principles needed to implement the notion that the seabed and its resources are the CHM, and it helped create consensus for the negotiation of a new law of the sea convention, UNCLOS III (U.N. Convention on the Law of the Sea). The ultimate outcome was a much more limited application of CHM than ever intended by its advocates. As will be explained immediately below, UNCLOS III restricted the application of CHM to a few rocks, e.g., mineral resources such as manganese nodules, sitting on the bottom of the deep seabed.

Part XI of UNCLOS III deals with the seabed and ocean floor and subsoil thereof (the "Area") beyond the limits of national jurisdiction. Article 136 declares the Area and its resources (only) to be the "common heritage of mankind." The Area and its resources cannot be claimed, appropriated, or owned by any state or person (Article 137). All rights to resources belong to mankind as a whole, with the International Seabed Authority (ISA) acting on mankind's behalf (Article 140). The ISA must ensure the equitable sharing of financial and other benefits arising from activities in the Area, taking into particular account the needs and interests of developing states and others. Promotion of research, transfer of technology to developing states and protection of the marine environment's ecological balance are all important functions of the ISA (Articles 144–145).

Part XI provisions create an international administration and management regime for only a small part of the international commons (the Area and its resources). It does not generally replace the freedom of the high seas (Part VII), thus the intended revolution of the law of the sea was not achieved. In the 1970s, the most commercially viable mineral resources of the Area were thought to be manganese nodules, hence Pardo's view that CHM was reduced in its application to "ugly little rocks lying in the darkest depths of all creation." Despite this serious limitation, the use of CHM was revolutionary enough to be one of the reasons why the U.S. refused to adhere to UNCLOS III.

To date, commercial use of the Area and its resources has not occurred. Further, the traditional fragmented approach to jurisdiction over separate elements of ocean space and resources endures despite the irrefutable unity of ecological systems.

1979 Moon Treaty

Even though aspects of CHM appeared in the 1967 Outer Space Treaty, it was not until 1979 that a clear statement appeared in the Moon Treaty, a treaty to govern exploration and exploitation of the moon's resources. Article 1(1) declares that the moon and its natural resources are the CHM. Disputes concerning the details of an international system for resource exploration, including provision for equitable benefit sharing, were resolved by deferring the details of a management regime for the future. The Moon Treaty has been ratified by only a few states, nevertheless it has been used to reject claims to property rights on the basis that it creates a general principle of law, applicable to the whole of the international community and not just states that ratified the treaty.

Core elements

There is no concise, fully agreed upon definition of CHM. Its features depend upon the details of the regime applying it or the space/resource to which it is applied. There are a number of core elements, however:

- No state or person can own common heritage spaces or resources (the principle of non-appropriation). They can be used but not owned, as they are a part of the international heritage (patrimony) and therefore belong to all humankind. This protects the international commons from expanding jurisdictional claims. When CHM applies to areas and resources within national jurisdiction, exercise of sovereignty is subject to certain responsibilities to protect the common good.
- The use of common heritage shall be carried out in accordance with a system of cooperative management for the benefit of all humankind, i.e., for the common good. This has been interpreted as creating a type of trustee relationship for explicit protection of the interests of humanity rather than the interests of particular states or private entities. There shall be active and equitable sharing of benefits (including financial, technological, and scientific) derived from the CHM. This provides a basis for limiting public or private commercial benefits and prioritizing distribution to others, including developing states (intragenerational equity between present generations of humans).
- CHM shall be reserved for peaceful purposes (preventing military uses).
- CHM shall be transmitted to future generations in substantially unimpaired condition (protection of ecological integrity and inter-generational equity between present and future generations of humans).

In recent years, these core elements have ensured that CHM remains central to the efforts of international environmental lawyers. It is recognized as articulating many key components of sustainability.

Some controversies

Controversies surround virtually all elements of CHM. This is because, as one commentator describes, it questions the regimes that apply to resources of global significance, irrespective of where they are situated. It therefore challenges traditional international law concepts such as acquisition of territory, sovereignty, sovereign equality, and international personality, as well as the allocation of planetary resources and consent-based sources of international law (Baslar 1997). Further, it has long been recognized that the precedent established for oceans management has the potential to form the basis for the future organization of an increasingly interdependent world.

One overriding issue concerns the extent to which CHM can prevent further fragmentation and privatization of the commons (or enclosure) and replace this trend with more communitarian values and legal protection of the common good. There is a wide divergence of views on whether the core element of non-appropriation prevents CHM from applying to globally significant spaces and resources that exist within the sovereign territory of states, e.g., rainforests and their flora and fauna. The equitable utilization element (or equitable benefit sharing) which requires the sharing of financial, technological, and scientific benefits of use of the CHM, has also proved divisive especially between developed and developing states and corporate actors. Developing states tend to view this element of CHM as pivotal to the achievement of distributive justice.

Developed states and commercial interests see this element as a potential impediment to investment and the use of market incentives, e.g., property rights, to achieve economic and environmental benefits. They favor, for example, exploitation by private enterprise conducted under licensing arrangements. The 1994 Implementation Agreement (amending UNCLOS III, Part XI) was generally viewed as having eroded the distributive elements of the original regime, in favor of protection of commercial interests. The impact of these and other issues saw CHM rejected as a concept to guide U.N. treaty regimes for climate change and for conservation of biological diversity. The 1992 U.N. Framework on Climate Change refers to the problem of climate change as being the "common concern of humankind." The original Maltese proposal was for a treaty declaring the global climate system as a part of the CHM, but this was rejected. Developing states rejected the use of CHM in the 1992 U.N. Convention on Biological Diversity, perceiving it as a potential threat to their sovereign rights to use and benefit from biological resources within their own territories. They were suspicious of interference under the guise of environmental protection or via the acquisition of intellectual property rights.

Extended applications

Over the years CHM has been applied to a range of resources and spaces: fisheries, Antarctica, the Arctic landscape, geostationary orbit, genetic resources (the genetic material of plants, animals and life forms, that are of value), and basic food resources. In recent years, the United Nations Educational, Scientific and Cultural Organization (UNESCO) has robustly supported CHM through a wide range of initiatives, e.g., declarations, conventions, and protocols that recognize natural and cultural heritage as the CHM. Although difficult to define, "natural and cultural heritage" includes tangible and intangible elements, ranging from archaeological sites and historic monuments to cultural phenomena (such as literature, language, and customary practices) and natural systems including islands, biosphere reserves and deserts. One new area of potential application is the human genome. This may prevent the patenting of the human genome by corporate interests.

In an ecological and generational context, it is possible to argue that the Earth itself is a global commons shared by each generation and that CHM should "extend to all natural and cultural resources, wherever located, that are internationally important for the well-being of future generations" (Weiss 1989, Taylor 1998).

Future outlook

In the short term and from the perspective of state practice and treaty negotiation, the future use of CHM is likely to be limited. International lawyers tend to treat its use – beyond the UNCLOS III and Moon Treaty – as merely political and aspirational. Issues that will shortly test the commitment of states to CHM include the status of marine living resources (of the "Area" and high seas), claims to the seabed under the melting Arctic ice, and the status of oil reserves under the deep seabed. In the context of the oceans, CHM provides the only current alternative to either freedom of use by all states or the acquisition and exercise of sovereign rights.

It also recognizes the interdependence of ecosystems and acknowledges human use. It therefore has much in common with ecosystem management approaches that are moving away from the emphasis on species and genetic regimes. CHM is also relevant to the wider debate on transforming the role of the state from exclusive focus on protection of national interests to include responsibility to protect ecological systems, wherever they are located, for the benefit of all.

States might be reticent to embrace the possible applications of CHM, but international law is no longer the sole province of states and international lawyers. Global civil society is playing an increasing role in the development of, and advocacy for, concepts such as CHM.

It is linked to renewed interest in cosmopolitanism, global constitutionalism, global municipal law, deep and just sustainability, and other global principles to guide progress towards a more peaceful and sustainable future for all (Earth Charter Initiative 2000).

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Ideas for Change: Making Meaning Out of Economic and Institutional Diversity

By Ryan T. Conway

The ideas and theories of Elinor Ostrom, one of the world's leading economic scholars studying the way people in communities cooperate (or don't), have inspired their own collective action hub. It includes students and scholars of many disciplines as well as people actively involved in managing community water use, organizing fishing industries, delivering urban services, and operating cooperatives. This "hub" is known as the Workshop in Political Theory and Policy Analysis, and is located at Indiana University in Bloomington.

As a graduate student, I sought out the Workshop in 2010, drawn by the practicality and real-world impact of its "toolkit" as well as the diverse group of scholars and practitioners who make use of it. And this is no small team. Over the years the Workshop has hosted almost 260 visiting scholars, with 18 more on the way for the 2011-2012 academic year. Such international and interdisciplinary diversity – which has endured and grown since the Workshop's creation in 1979 – is a true inspiration and a rarity in the academic world.

In this chapter, I sketch out the basics of the Workshop and offer my own perspective on how Workshop tools can be translated in a way that both practitioners and researchers can find useful. My perspective is simple: shared ideas and common understandings are essential for creating institutions and for analyzing them.

Questioning conventional wisdom: Ostrom's unique insight

At the Workshop, we're often warned that "there are no panaceas," which is to say that there's no "one size fits all" solution for problematic situations and no one final model for the social world, since behaviors and circumstances are constantly changing. Our job, as researchers, is to continually update our models of the social world so that we can explain it more accurately and – hopefully, offer helpful insights to anyone faced with tough choices in a complex, social world. This is important, not just as a practice, but as a way of thinking. Specifically, a way of thinking about how everyday people bring some order to their ever-changing activities.

For example, to devise and apply strategies of how "best" to use the resources around us is to practice "economy" with the least ideological baggage in tow. Every kind of "economy" – whether it's an international capitalist market, a centrally planned socialist project, or a village-level community – comes with its own understanding of the world and notion of what's "best." Hence, when a group of people settles on some common assumptions about

the world, like how an economy should operate, things become more orderly. Even better, once they have such a common model of the world, they then can try to clarify specific items, attributes and relationships that exist, adding even more layers of order.

But what's a model of the world without the people in it? Adding ourselves into the equation requires an act of self-reflection in which we must acknowledge that our rational, intentional and meaning-making abilities all conspire to help us – and our future generations – to survive. Here, though, is where problems can arise: when everyone in a situation seeks to use available resources individually, the benefits don't always add up for the group as a whole and can, instead, hurt everyone. This happens when people can't agree on a story about what's going on, or on ideas of what should be done about it. When we have a problem coordinating our ideas, we often have a problem cooperating. We call this kind of situation a *social dilemma*.

One of the nastier social dilemmas is the *tragedy of the commons*. The commons could be any type of shared resources and their respective management regimes, but much of Ostrom's work has revolved around resources such as land, water, etc., that communities use to sustain their livelihood. These kinds of resources – like fisheries or irrigation systems – are often “common pool resources” (CPRs), which means that they are limited resources that are hard to manage with property rights.

For a long time, many researchers and policymakers believed that the only way to avoid tragedy was to privatize the commons or place them under government control. But Ostrom wasn't convinced. She had a fairly radical idea that broke with conventional wisdom: the survival of communities' resources does not depend upon the state to make laws and impose punishments, nor does it depend on assigning a dollar value to every fish, chunk of grass, or drop of water. Rather, people, when they come together, can share understandings and manage their resources by enforcing norms and rules of their own design.¹ The unconventional idea in many quarters was that people could cooperate “beyond markets and states.”

The workshop toolkit

Through many years and countless studies of commons successes and tragedies, Ostrom and the Workshopers developed a toolkit for analyzing these situations. Its use has led to discoveries that have aided practitioners and inspired academics. Each tool can be used to help map out the different ways a community organizes its actions through instances of decision making, e.g., agreeing on a type of economy and how to run it. In this section, I'll take you through some of the major analytical tools developed at the Workshop.

The *grammar of institutions* is something of a master tool: it allows the analyst to break any social norm or rule down into smaller, more easily understood components, or what I would call, the building blocks of social relationships. And though this is adequate for analyzing any single social prescription, most people make decisions in situations where they face multiple and sometimes conflicting social norms and rules. To help analyze such complex situations, another tool has

1 | Issues of power disparities, race, class, gender have not been formally integrated into the framework, but some Workshopers have pursued such issues, for instance, Clemente 2010.

Ostrom's Eight Design Principles of Successful Commons

1. *Clearly Defined Boundaries*. Clear boundaries that separate a specific common pool resource from a larger social-ecological system are present.
2. *Congruence with local social and environmental conditions*.
3. *Appropriation and provision*. Appropriation rules are congruent with the social-ecological system.
4. *Commons as a collective good*. Most decisions about the resource regime are authorized to participate in making and modifying its rules.
5. *Monitoring Users*. Individuals who are accountable to or are the users monitor the appropriation and provision levels of the users.
6. *Monitoring the Resource*. Individuals who are accountable to or are the users monitor the condition of the resource.
7. *Graded Sanctions*. Sanctions for rule violations start very low but increase if violations continue.
8. *Conflict-Resolution Mechanisms*. Rapid, low-cost, local arenas exist for resolving conflicts among users or with officials.
9. *Minimal Recognition of Rights*. The rights of local users to make their own rules are recognized by the government.
10. *Nested Enterprises*. When a common-pool resource is clearly connected to a larger social-ecological system, governance activities are organized in multiple nested layers.

been developed. Workshopers call it the *IAD*, which stands for *Institutional Analysis and Development* framework. If the grammar of institutions is best suited for analyzing any single social norm or rule, then the IAD is best suited for analyzing any collection of them that occur simultaneously around a single decision. As such, the basic relational building blocks of multiple social prescriptions can be analyzed simultaneously using the IAD. Lastly, just as the IAD is adequate for analyzing a collection of social prescriptions that relate to the management of a single, community resource, the *social-ecological systems* framework (SES) allows the researcher to catalogue all of the critical variables related to the management of an entire social-ecological system. Though this framework is somewhat more general than the other two tools, it can still integrate both of them. Just as one can use the

IAD to analyze how choices are made about governing a single community resource the SES can allow the researcher to classify and make comparisons about how multiple resources – within a larger ecosystem – are managed.

The grammar of institutions

One strength of the Workshop toolkit is that all of its tools are compatible. This has been possible because they have all evolved from one master tool: the *grammar of institutions* (Crawford and Ostrom 1995). This is the tool that identifies the basic building blocks of social relationships, and the Workshop has special terms for them. As a simplified illustration, consider a housing cooperative where housemates share and rotate roles, one of which is “waste manager.” In this role one of the duties is compost consolidation: on the second Friday of every month the member must empty all the compost containers into the main bin, without opening the container lids inside and without spilling any of the compost. And there is a rule: if the member fails to complete this duty in the manner specified that member will have to retain this duty for two additional months.

Using the five relational building blocks – which fit the acronym ADILO – one could analyze the waste-manager example in the following way:

- **Attributes** (to whom does this norm/rule apply): the house waste manager
- **Deontics** (may, must not, or must be done): must execute the compost consolidation duty, must not open container lids inside and must not spill any compost)
- **Aims** (designated actions): empties all compost containers into the main bin
- **Conditions** (when, where and how does it apply): on the second Friday of every month, in the main house
- **“Or Else”** (agreed upon, specific punishments to be applied when a person acts in violation of the agreed-upon definitions of the other four parts) or else she will remain the waste manager for the next two months

Through this example, one can see how we combine these basic relational building blocks to produce a norm or rule that guides people’s behavior in a collective action situation. The Workshop refers to these combinations of basic building blocks as *institutional statements*, which can take the form of rules, norms, or shared strategies. When a group has specified all five parts – attributes, deontics, aims, conditions, and “or else” – that includes all five of these parts, this is a *rule*. If the group has not specified a punishment – no “Or Else” – this is a *norm*. When members of the group only have common knowledge about “attributes,” “aims” and “conditions” – who, what, when, where and how one must act – the Workshop approach* assumes that each person will see the same situation and each, on their own, will come up with the same solution: this is a *shared strategy*.

The easiest way to picture the relationship between the grammar of institutions

and the other Workshop tools – the *Institutional Analysis and Development framework* (IAD) or *Socio-Ecological Systems framework* (SES) – is to think about the study of DNA (Ostrom 2009). Just as nucleobases and amino acids can combine in various ways to create many different types of proteins, there are basic building blocks of social relationships that can combine in various ways to create many different types of group behaviors. Life scientists needed specific tools to identify genetic building blocks and still other tools for mapping the biological structures these genetic building blocks create. Social scientists are no different: we needed specific tools to identify the building blocks of social relationships and still others to map out the larger social structures they create.

Let us return to the example of the waste-manager role in the housing coop. If you think about it, the compost consolidation duty might include three levels of decision making. (1) a full house meeting decides to add the role of waste manager to the list of house roles and appoints a subcommittee to determine the specifics of the waste manager role. (2) the subcommittee decides the duties of that role and how they are to be carried out. (3) the member acting in the waste manager role has to choose whether and how to execute it.

The Institutional Analysis and Development framework (IAD)

Level 1 is a “constitutional choice situation” members choose how some rules are to be made. Level 2 is a “collective-choice situation” members in the subcommittee make the rules, given the “how” guidelines of Level 1. Level 3 is an “operational-choice situation” the member decides how to execute their waste-manager duties, given the guidelines of Level 2.

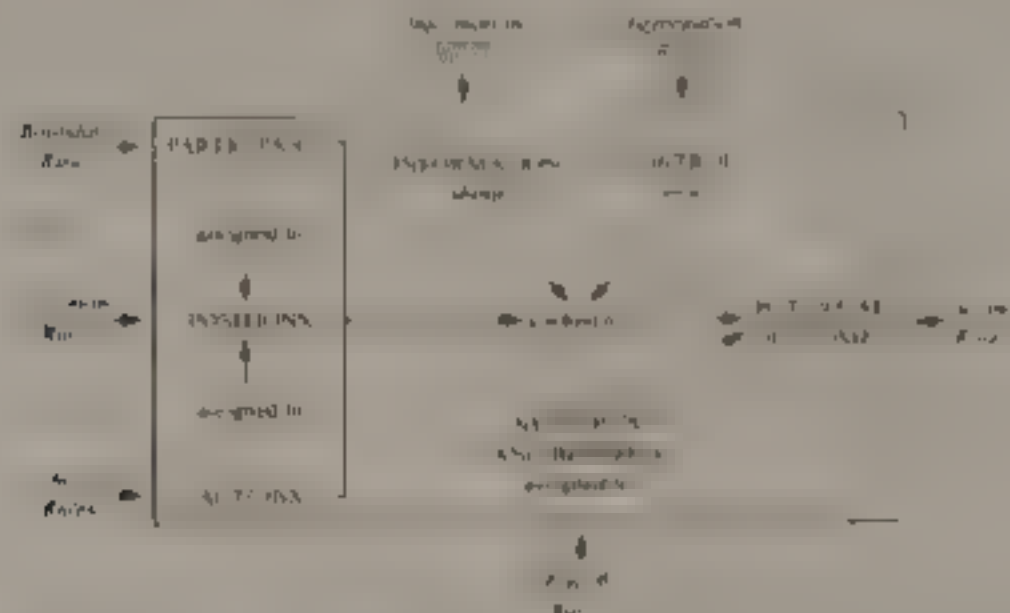
The choice made at each of these three levels represents what Workshopers call an *action situation*. To explain this I’ll refer to Figure 1, below. Within the box notice the seven major elements: Actors, Positions, Actions, Information, Control, Net Costs and Benefits, and Potential Outcomes. Around the outside of the box notice that a certain rule points toward each of the seven major elements. For example, look at the bottom left corner: a “choice rule” determines what kind of actions a person can take.

Now, recalling that the grammar of institutions is able to analyze each of these rules, one can see that the grammar of institutions and the IAD can be used together, depending on how specific one wants to be in her analysis. And the relationship between the IAD and the SES is quite similar.

The *socio-ecological systems framework* (SES) is a framework that presents a comprehensive list of important objects, relationships, and variables that are necessary for understanding how social arrangements – like norms and rules – overlap with the natural relationships in an ecosystem (Ostrom 2007). Just as our last example showed how the IAD can be used for analyzing the management of one community resource – organic compost – the SES allows a researcher to identify several resources within a larger ecosystem and, further, to compare how the different resources are managed, using the IAD to look at each resource, respectively.

If each use of the IAD contains three levels of analysis and each level of analysis contains seven rules, you can see how this can all become very complicated. very

Figure 1 Action Situation. (Ostrom 2005)



quickly. The advantage of the Workshop toolkit is that, when used carefully, it can bring some consistency and order to how one thinks about these incredibly complex situations. What's more, the tools can be used independently: using the SES does not require using the IAD which, in turn, does not require using the grammar of institutions. One chooses which tools to use, depending on how specific they need to be.

If getting through all this "jargon" may not yet seem worth your while, it's worth considering that this is a powerful approach to understanding how people work together, and it has been used by collective action practitioners and scholars around the globe. And, in this case, the payoff is clear: if we can all work from a common understanding – in this case, of Workshop vocabulary/analytical tools – we enhance our ability to work together. If you're still not convinced, this next section might change your mind.

A missing variable: how ideas and our words matter

"But," you might ask, "do we really need all this new vocabulary to describe common experiences?" I would say yes, for a very simple reason: our thinking and talking structures and in part determine how we behave, whether we are practicing collective action or researching it. So learning to share ideas and refer to them with the same words will keep us on the same page. More than this, I am convinced that both the research and practice of collective action are grounded in what Tomasello calls "shared intentionality" (Tomasello et al. 2005) or what some political scientists call collective ideation.

In other words, effective collective action may, in practice, rely on shared vision – both of our world and of the goals we seek within it. In a neighborhood bartering system, this may be an idea of what constitutes the neighborhood, who qualifies as a neighbor, what goods can be exchanged, and a stated or tacit goal for beginning the system in the first place. In the Workshop, this is a collective acceptance of the toolkit itself as a baseline of shared concepts and models that help us to explain social behavior. Without the shared ideas, it would be hard to organize a barter system; without the shared ideas, we wouldn't be a Workshop.

This claim is controversial for some complex reasons.³ But herein lies the beauty of the Workshop: the boundaries of our tools are continually contested, expanded, and revised. It was an accident that a network of Workshop practitioners let's jump into the fray.

Whether looking at mainstream or alternative economies, one will always run into some kind of social dilemma, like the tragedy of the commons, mentioned above. Many academics say that breaking social dilemmas is a matter of solving the collective action problem. This is a generic way of saying that, in order to achieve a benefit that helps the members of a group, some portion of these people must accept a risk of paying extra for a benefit shared by all. Here is where the Workshop applies its ideas. Such groups can, sometimes, solve the collective action problem using the rules, norms and shared strategies, noted above. However, none of those institutional statements, nor their relational building blocks, just spring from thin air. A shared intentionality must be developed – that is, a collective ideation problem must be overcome – before groups can effectively work together.

The collective ideation problem is a problem of finding and agreeing on common definitions, knowledge, and understandings of a situation, all of which are necessary for creating institutions. Indeed, it's hard to make sense of the "institutional grammar" without them. Crawford and Ostrom note: "By focusing on mutually understood actor expectations, preferences, and 'behavior,' one avoids the trap of treating institutions as things that exist apart from the shared understandings and resulting behavior of participants" (Crawford and Ostrom 1995). Other economic scholars would agree. Denzau and North wrote a widely received article explaining the importance of sharing understandings, or what they call "mental models" (Denzau and North 1994). And further, Diana Richards, Whitman Richards, and Brendan McKay have contributed to our understanding of how mental models affect choice, modeling how shared knowledge structures affect how people behave in social dilemmas (Richards 2001 and Richards et al. 2002).

Mental models are how we organize and make sense of the world. Mental models are useful, simplified versions of the social and ecological worlds we live in, just like a map is a useful, simplified version of a territory, or a blueprint is a useful, simplified version of a building. Now, if we don't talk through our differing mental models of, say, a fishery, there is a collective ideation problem, because we hold conflicting understandings of our resource.

So how can we move forward from acknowledging that shared ideas and language are important for developing effective institutions? Some research has shown that work within an organization improves through breaking jargon barriers and sharing mental models. Further, we all know how difficult it is to start up, expand, or replicate grassroots collective action projects, such as community supported agriculture programs, neighborhood barter systems, producer and

³ For example, the Workshop's emphasis on shared ideas and language is controversial because it is not clear how to operationalize this idea. Some argue that shared ideas and language are not necessary for collective action. Others argue that shared ideas and language are necessary for collective action, but that they are not sufficient. The Workshop's emphasis on shared ideas and language is a response to these arguments. It is a way of saying that shared ideas and language are necessary for collective action, and that they are also important for understanding how collective action works.

consumer cooperatives, etc. Success in such ventures may very well depend on how much effort is put into resolving the collective ideation problem before working out a scalable solution to the collective action problem. Forging common ground with groups that have different mental models and vocabularies would make it easier for all involved to act collectively. If we then forge common ground with groups that have different mental models and vocabularies, we make it easier for all involved to act collectively.

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Constructing Commons in the Cultural Environment

by Michael J. Madison, Brett M. Frischmann and Katherine J. Strandburg

The Maine lobster fishery is a successful example of a managed natural resource commons. To ensure an ongoing supply of lobsters in the face of threats to the fishery from unregulated overfishing, over a period of years Maine lobster fishermen crafted a set of formal and informal rules to determine who can harvest lobsters, at what times and places, and in what volume. By design, the product of their efforts is a commons, a managed access governance regime that allows both lobsters and the lobster industry to flourish.

How do such commons work? Where do they come from, what contributes to their durability and effectiveness, and what undermines them? These questions are at the heart of an institutionalist research paradigm that has been extremely successful in understanding the successes and failures of natural resource commons arrangements.¹ In "Constructing Commons in the Cultural Environment" (hereafter, "Constructing Commons"), published in the *Cornell Law Review*, we confronted the challenge of understanding the governance of what we refer to as constructed commons in the cultural environment. In constructed commons the resources to be produced, conserved, and consumed are not crustaceans but information, copyrighted works of authorship, patented inventions and other forms of information and knowledge that may not be aligned with formal systems of intellectual property law (Madison, et al. 2010).

The Constructing Commons framework suggests a means to investigate the social role and significance of constructed commons institutions. This investigation is relevant to property law in particular and social ordering more generally. The conventional view of property scholars, particularly those with interests in intellectual property law, is that resource production and consumption are, and ought to be, governed primarily by entitlements to individual resource units, held individually and allocated via market mechanisms. To the extent that those market mechanisms are inadequate to optimize the welfare of society, in the event of market failure, government intervention is the suggested remedy. Intellectual property rights themselves are generally justified as remedies for market failure. Creative works and new inventions are characterized as public goods, whose intangibility prevents their originators from excluding potential users and thus

1 | See the essay by Helen Markelova and Esther Mwangi on pp. 379–388.

recouping their investments via pricing. Copyright and patent laws create artificial but legally sanctioned forms of exclusion, restoring a measure of market control to creators and innovators.

The conventional view regards communal and collectivist institutions, particularly those that blend informal normative structures with formal government rules, as exceptional and dependent upon pre-existing property entitlements. Systematically performing and analyzing case studies of constructed cultural commons across a wide range of contexts according to a proposed framework offers a critical method for assessing the validity of this property-focused narrative.

The phrase "constructed cultural commons," as we use it, refers to socially constructed institutions for developing and sharing cultural and scientific knowledge in a formally or informally managed way, much as a natural resource commons refers to the type of managed sharing environment for natural resources exemplified by the Maine lobster fishery.

A commons is neither a place nor a thing. Rather, a commons is a resource management or governance regime. Cultural commons are regimes for managing the sharing of information or cultural resources. Commons are "constructed" in the sense that their creation, existence, operation and persistence are matters not of pure accident or random chance, but instead of emergent social process and institutional design. Examples of constructed cultural commons include intellectual property pools in which owners of patents in a technological domain license their patents to a common "pool" from which producers of complex products can obtain all of the permissions needed to make and sell goods that use the patents; open source computer software projects, which offer users of open source programs the ability to create and share modifications to the programs; Wikipedia, which offers users of this Internet encyclopedia the power to add to and edit its contents; the wire service for journalism operated by the Associated Press, which allows individual member media outlets the opportunity to publish work produced by other members; and "jamband" fan communities, which record, share and comment on musical performances of their favorite groups – with the permission of the artists themselves. The best known jamband is the community that grew up around and that is still associated with the Grateful Dead.

These examples differ from one another in many significant respects. They share certain basic structural features as governance regimes for sharing information or cultural resources, that make them well-suited to comparative analysis. Participants design these environments with limitations tailored to the character of the resources, interests and constraints involved. Participants negotiate such via market transactions, provided institutional property entitlements are well structured, or instead via government regulation. Research on intellectual property and related cultural resources has generally failed to focus sufficiently on managed sharing or on the governance of cultural resources via collective mechanisms. The theoretical discussion of intellectual property policy has been focused on extremes of exclusion and open access, ignoring a wide range of

constructed commons that persist between these extremes.² Such discussion is often divorced from empirical studies of creative and inventive communities. In *Constructing Commons*, we argue that it is high time to devote more attention to the middle ground of constructed cultural commons.

Research on the Maine lobster fishery and other natural resource commons is grounded in the case study approach pioneered by Elinor Ostrom and her colleagues. That approach employs a so-called "Institutional Analysis and Development" (IAD) framework of structured inquiries to study a variety of commons arrangements before moving on to create theories and models to explain them (Ostrom, 1990).

A simple illustration of the framework in a cultural context might be a soccer (football) league. The formal rules of soccer are fixed, but the rules-in-use clearly vary somewhat between a professional league and a recreational league, between children's leagues and adult leagues, and so forth. A specific soccer league is also characterized by the relationships among the players (neighbors, professional competitors, friends, etc.), by the attributes of the fields on which games are played, and even by the climate of the places where the games take place. The action arena (soccer games) depends on complex and specific interactions among all of these characteristics. Nonetheless, the outcomes over time in a particular league are the patterns of interaction that are clearly identifiable as "professional soccer," "friendly weekend game," "children's soccer league" and so forth. Moreover, some leagues may be successful, lasting for years even as players come and go, while others will fail.

The goal of applying the IAD framework of analysis in this context would be to use analysis of many different soccer leagues to come to an understanding of success and failure as a function of specific context. In other words, what we want to know is what features of commons lead to it being productive and stable? What features undermine commons? Under what circumstances are commons solutions to be preferred or accepted as matters of public policy, and under what circumstances do commons risk causing social harm?

The method of structured inquiry has the advantages of a systematic approach without prematurely imposing any one theoretical paradigm on the study of commons. It allows the complexity of real-world commons arrangements to inform the search for theoretical understanding rather than papering over such complexity in an attempt to shoehorn existing commons arrangements into a pre-existing model. After engaging in a large number of such studies, Ostrom's approach permits generalization (for example, with regard to design principles for successful commons³) along with more specific theorizing, modeling and even experimental studies of particular aspects observed in the case studies.

Building on Ostrom's work, we propose and argue for the use of a similar framework to systematize case-study-based research exploring the construction of cultural commons. The time is ripe for such an approach, as a number of scholars

2 | See essays by Benjamin Malin Hill (pp. 303–308), Mike Linksvayer (pp. 309–304) and Ramer Kuhlen (pp. 332–349).

3 | See the summary of Ostrom's design principles on p. 163.

have begun to do case studies of constructed cultural commons. However, they tend to have studied isolated areas (such as open source software or academic publishing) and to have considered a limited number of descriptive variables. This makes integration and learning from a body of case studies quite difficult, which in turn discourages people from pursuing further case studies.

Constructing Commons adapts, extends and distinguishes Ostrom's IAD framework to account for important differences between constructed cultural commons and natural resource commons. We briefly discuss only a few of the most important issues that distinguish the inquiries necessary for studying them. Most important, unlike commons in the natural resource environment, cultural commons arrangements usually must create a governance structure that produces the relevant resources as well as provides for sharing existing resources.⁴ This characteristic of cultural commons creates a more intertwined set of exogenous variables, since separating the managed resources from the attributes and rules-in-use of the community that produces them is impossible.

Picture a university, which for our purposes should be considered a cultural commons. Faculty and students within a university share existing knowledge and knowledge resources (such as scholarly literature, archival material and research subjects) and collaborate in the production of new knowledge. That activity is rarely limited by proprietary claims made by faculty or students against one another. The university and its many units, departments and disciplines are governed by a detailed scheme of internal regulation. There is also an increasing interest in detailed legal regulation of the process of technology transfer, the point at which the cultural commons of the university intersects with the proprietary marketplace beyond the university's walls (Madison, Frischmann and Strandburg 2009).

In cultural commons, distinguishing outcomes from resources and community attributes is not strictly possible, since the interactions of the participants in such a commons are inextricably linked with the form and content of the knowledge output, which in turn is itself a resource for future production. These differences call for a set of inquiries tailored to cultural commons. Because the resources shared within a cultural commons are culturally constructed and nonrivalrous,⁵ defining the boundaries of the commonly managed resource is a different task than in the natural resource commons context.

First, a reference environment must be consciously chosen: either the public domain or a proprietary intellectual property environment may be most appropriate depending upon the particular commons (such as a university research community or patent pool) under investigation. Next, nuanced questions about openness are in order. In natural resource commons, in many cases, the commons is open to members and closed to everyone else, and that is the end of the story. This is sensible because natural resources are rivalrous—preventing overconsumption is usually the goal of the commons arrangement. Intellectual resources, by contrast,

are not subject to the same natural constraints and are naturally shareable without a risk of congestion or overconsumption. Thus, a constructed cultural commons arrangement reflects many choices about the degree and type of participation that is available to various persons and entities. Open source software projects, for example, often allow anyone to comment, make suggestions or submit code for potential adoption, but are managed by a small group of core programmers who determine what code to incorporate into official releases. Additionally individuals having nothing to do with the writing of the code can use it, subject to constraints on commercialization incorporated into the copyright license, which vary from project to project.⁶

We suspect that, over time, the constructed cultural commons framework that we describe will yield a far larger and richer set of commons cases in the cultural context than one might discover by focusing only on patent law or scientific research or software development. The logical and normative priority assigned to proprietary rights and government intervention may turn out to be misplaced, social ordering both depends on and generates a wide variety of formal and informal institutional arrangements. Importantly, understanding commons in the cultural environment is likely to shed light on the ways in which managed sharing or openness with respect to cultural resources generates the "spillovers," or third-party benefits, that are critical to the welfare effects of those resources. (Frischmann and Lemley 2007, Frischmann 2008) The social value of information lies not only in its effect on the producer and the consumer of that information, but also in the ways in which the consumer shares that information with others.

Understanding the origins and operation of constructed cultural commons requires detailed assessments that recognize that commons operate simultaneously at several levels, each nested in a level above, and that each level entails a variety of possible attributes. We suggest buckets or clusters of issues that should guide further inquiry, including the ways in which information resources and resource commons are structured by default rules of exclusion, and the ways in which members of these pools manage participation in the collective production and extraction of information resources. Case studies across disciplines and reviews of existing literature that address cultural commons will help specify relevant attributes within each cluster. We expect the framework to evolve further as researchers apply it to specific case studies.

Beyond our proposal of a framework for studying commons, our consideration of constructed cultural commons also highlights a number of points that are important in the study of intellectual property going forward. Considering constructed commons helps to elevate collective, intermediate solutions to their possible place of significance in accounts of property regimes and should diminish the skepticism of many scholars that collective solutions can work beyond narrowly defined situations. Case studies will also call our attention to the constructed, designed character of both the cultural and the legal environment in regard to

4 | Editors' note: Many authors of this volume conceptualize commons as productive social systems where the point is not only about sharing common pool resources but also producing commons.

5 | On rivalrous goods, see Silke Helfrich's essay on pp. 61–67.

6 | See Mike Linksvayer's essay on Creative Commons licenses on pp. 299–304 and Christian Siefken's essay on commons-based peer production on pp. 289–294.

knowledge and institutional policy problems. Finally, as a case for the study of natural resource management, systematic analyses of constructed commons across a wide range of collected case studies should lead us to doubt panacea prescriptions drawn from overly simplistic models.

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The Triune Peer Governance of the Digital Commons

By Michel Bauwens

In a foundational essay, "The Political Economy of Peer Production" (Bauwens 2006), I defined commons-based peer production in two different ways. The first perspective draws upon Nick Over-Whitford's analysis that peer production consists of

- **An input phase:** Without access to open and free "raw material," either preexisting or to be created, there can be no free permissionless self-aggregation around common value.
- **A process phase:** People who are working together as voluntary contributors outside of the wage-labor dependency system need to develop methods of participatory governance reflecting their equipotential contributions to the commons; and
- **An output phase:** Commoners won't contribute if there can be a private appropriation of their common work; therefore, they use new forms of open licensing guaranteeing universal availability and thus create an openly accessible commons.

Commons-based peer production can also be defined as the common creation of value using peer governance to manage this process and peer property to protect common value from private appropriation. "Equipotentiality" refers to the equal freedom, opportunity and capability of everyone to contribute to the commons, by matching the needs for commons development with the freely given contributions of passionate labor provided by commoners. This process relies upon a "stigmergic signalling" system that facilitates the voluntary and swift allocation of labor to perform needed tasks. One could say that in peer production, the "division of labor" is transformed in a system that is more akin to a "distribution of tasks."

Peer governance in the narrow sense should be reserved for those aspects of peer production that are strictly outside a hierarchical allocation of tasks, in the sense of a command and control mechanism that governs the production process

directly. However, peer governance may embody different forms of hierarchy, such as quality-selection mechanisms that occur later in the production process. Hierarchies that disempower the mechanisms that enable everyone to freely contribute however, cannot be considered compatible with peer production and peer governance. To complicate matters further, peer production is a hybrid form of governance because in present circumstances it is interdependent with the capitalist economy in which it emerges.

Indeed, in "real-world" practice, we see the emergence of a triune structure governing such collaborative production. At the core is a community consisting of both voluntary contributors and paid employees, which requires a physical infrastructure to facilitate cooperation and sometimes entails entrepreneurial coalitions of corporations and freelance workers.

Volunteers and paid employees contribute knowledge, code and design to the common pool, using a variety of open licenses to ensure the legal defensibility of their commons.² Peer production projects are successful as long as they can attract either volunteers or corporate contributors willing to use such open licenses. In general, such communities are governed by rules and norms derived from meritocratic philosophies. While any capable person can generally contribute, they have post-production quality control mechanisms that either individually or collectively apply some standards of meritocratic judgment.

This is sometimes called the "maintainer" model of management. The specific rules can be elaborate and in turn create some form of hierarchy, such as the oversight exercised by "admins" and editors in the Wikipedia project. But such governance is not a classic scarcity-based allocation mechanism such as the market, bureaucracy or even a democracy because contributions (code, text, design, etc.) are generally considered to be nonrival and abundant. Anyone can contribute but some decisions must be made in curating or synthesizing the end product. This can be considered a permissionless process of production, with strong "pluri-archival" elements. It preserves the possibility of noncooperation or "forking" (in which disaffected participants leave the project to start their own offshoot), while preserving a strong posthoc quality control mechanism, which is needed to guarantee the quality of the end product.

The second aspect of the triune structure of peer production communities, a physical infrastructure of cooperation, is sometimes costly and requires capital investment. Think of the money needed to maintain the servers of the Wikipedia project. In general, such communities create "for-benefit" associations or foundations, which manage and maintain the infrastructure of cooperation, gather donations and perform related functions. These foundations take on the legal form of nonprofits and are generally governed in democratic ways, through elections, sortition (the drawing of lots), rotation and other methods. They are "for-benefit" associations in the sense that they work for the commons and the community of contributors, but do not direct the process of production itself.

2 | See Mike Linksvayer's essay on Creative Commons and other licenses on pp. 299–304.

Finally, the third player in commons-based peer production are the entrepreneurial coalitions of corporations and freelance workers who either sell their services and labor time, or create added value that can be sold and monetized in the marketplace. Such companies are important for the reproduction of the commons and the commons, since they may pay many contributors and sustain and finance the for-benefit associations.

Many commons-based peer projects are currently embedded in the mainstream political economy of capitalism. This has resulted in a delicate co-dependency between the communities, which need the capital and monetary income provided by enterprises, and corporations, which need to capture and monetize some of the fruits of the social cooperation.³ This hybrid collaborative economy poses a number of important issues for peer governance:

- How can the community maintain its independent processes, rules and norms when a substantial number of contributors are paid by companies? In practice, this can lead to open source communities being dominated by single companies, which likely disqualifies them as true commons. But on the other hand, there are also instances of companies adapting to the rules and norms of the community such as IBM's respectful relationship to the GNU Linux community.
- How can the for-benefit association retain its independence and democratic procedures if it is cofinanced by corporations who may exert a self-serving influence? In practice, many foundations such as the one that oversees GNU Linux limit the representation of single companies to avoid such dominance.

As we can see, peer governance creates many issues around the distribution of power, and creates a new form of (class?) "struggle" between peer producing communities and commons on the one hand, and entrepreneurial and large corporate entities on the other. Even in the best of cases, there are many "internal" tensions among the new types of meritocratic hierarchies emerging within peer communities themselves. A wide variety of solutions are available but democracy and pluriarchy are never a given and so are always an ongoing social challenge.

What is important, and to some extent historically novel, is the rise of equipotential cooperation mechanisms that function beyond the local level, the generalized possibility for stigmergic, horizontal communication among large numbers of people, the legal protections for maintaining commons that open licenses provide, and the choice that commonsers always have to fork a collaborative project. These are promising conditions for democratic governance compared with the almost feudal structures prevalent in private corporations relying upon wage dependency.

3 | Please note that I'm not discussing the structural conditions of corporate-owned sharing platforms like Facebook or crowdsourcing platforms where freelancers produce for the marketplace.

This is why we may prefer alternatives that can free peer production from over-dependence on the political economy of capital. Instead of a situation in which the commons and peer production must depend on the imperatives of capital accumulation for their own social reproduction, we must find better ways to defend not just the autonomy of peer governance, but an autonomous "circulation of the commons" which favors the social practices that animate and give value to this paradigm of production.

Our proposal in this context is that the commoners themselves create a new type of for-benefit entity to operate in the marketplace. Such an entity would have commoners as its members and would give a priority to the sustainability of the commons and its contributing commoners. It would also subsume the profit mechanism to its social goals. By allying and aligning themselves to each other, such peer-based entities could potentially create a counter-economy, and cultivate a new production logic that could overcome dependency on capital. The name of "Phyles" has been proposed for such entities,⁵ and specific licenses have been developed for their operation.⁶ Their logic is to limit the free usage of the commons to only such entities that also contribute to the commons, and to let for-profit companies pay for usage. Such a prohibition of "leaking of value" from the commons to capital could be a mechanism to create a productive feedback loop for the autonomy of the commons.

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5 | See <http://p2pfoundation.net/Phyles>.

6 | See http://p2pfoundation.net/Peer_Production_License.

Multilevel Governance and Cross-Scale Coordination for Natural Resource Management: Lessons from Current Research

By Helen Markelova and Esther Mwangi

Most authors writing about natural resource management (NRM) agree that their very complexity and the interactions and interdependence between resources and their users require that we focus on the importance of scale. Ecological researchers are mostly focused on the geobiophysical scale, while scholars of governance are primarily concerned with governance arrangements at different levels, which may or may not correspond directly to the scale of the resources being managed. Traditionally, there has been a mismatch between human action and ecological systems, as Cash et al. (2006) point out, resulting in poorly designed institutions for NRM. For example, short electoral cycles for government officials may conflict with the long-term planning needed for NRM.

The documented failure to consider the proper scale and cross-scale dynamics in human environment systems often results in misguided public policy and resource management systems. The challenge, then, is how to recognize and address this mismatch in order to design governance arrangements that can coherently map onto the biogeophysical scale of the resource, either spatially or temporally. This tends to be a very difficult and complex challenge because scale issues are generally linked with political structures and authority.

In this essay, we review current thinking on multilevel governance to explore why coordination across scales and levels is important. We also examine the main policy approaches that have been used to achieve cross-level and cross-scale coordination. Finally, we consider some of the factors identified in the literature that contribute to successful cross-scale collaboration.

Scale issues in NRM and environmental research

Integrated natural resource management (INRM) is a complex process that occurs at a number of scales with multiple stakeholders, each with their own objectives and perceptions (Campbell et al. 2001). The term "INRM" encompasses a range of activities with numerous components, and therefore risks being over-inclusive, but it seeks to focus on the most appropriate indicators – such as sustainability and distribution of benefits – that vary with the scale at which management takes place and the scale at which prevailing social and economic processes operate. Interventions may work at one scale, but have very different

effects at a higher scale. For example, soil and water conservation interventions may improve crop yields at a specific site, but reduce water yields downstream.

The challenge is to ascertain the appropriate scale for evaluating benefits. Campbell et al. (2001) show that the appropriate scale depends on what types of impact are anticipated, the specific objectives, the time scale of the study, the level of accuracy required and the value system that is chosen by the evaluator. It is relatively manageable to make plot- and farm level analyses, but much more unwieldy to study impacts at the scale of the community and the watershed where numerous complicating factors – ecological, social, cultural, institutional, economic, and political – have to be considered. Researchers may also approach IHRM studies with multiple assessment criteria – such as poverty alleviation, ecological resilience, natural resource conservation, economic growth, and human and social development, which reflect the varying interests of different stakeholders.

In most of the studies we reviewed, it becomes clear that environmental interventions (albeit considered at different scale) will not be effective without the appropriate management and governance structures. As Cash and Moser (2000) point out, big problems arise when an environmental phenomenon is managed at an institutional scale whose authoritative reach does not correspond with the geographical scale or particular spatial dynamics of an environmental problem. Ostrom (2009) suggests that although the benefits from interventions seeking to reduce greenhouse gas emissions are distributed across scales, from the household to the globe, small and medium scale governance units are better suited to build trust and commitment than ones working at a global scale alone.

Cross-scale networks of resource management cannot only create more resilient governance but also governance that is more participatory and effective. Adger et al. (2005) note that the marine areas of the Caribbean are managed through integrated and well linked resource systems (nested within national and international agendas, regimes, networks, and legal systems) and with multiple beneficiaries – and are more robust/resilient than systems with greater or fewer linkages. Resilience and stability of governance systems depends on the distribution of benefits from cross-scale linkages, demonstrated by the ability of the system to command legitimacy and trust among the resource user and governmental stakeholders. Adger et al. believe that multilevel governance should be promoted not just for ecological reasons, but because shared responsibility for management of resources creates positive incentives for sustainable use. It also overcomes problems of legitimacy from traditional NRM and its presumption that the local regime should avoid a larger scalar interdependence.

Research on forest management also affirms the need for multilevel governance. Ribot et al. (2006) argue that there must be procedures in both policy-making and implementation that encourage public participation, democratic control over forests and community participation – i.e., governance arrangements that span various levels. Poteete and Ostrom (2004) also note that, because forest ecosystems are affected by many biophysical, demographic, economic, and institutional factors, they require complex interactions between ecosystems and

social systems. Policies promoting institutional development at the local level require a solid understanding of the determinants of local organization and successful forest management.

Definition of scale and multilevel governance. The sections above show that there are multiple definitions of "scale" and "level," depending on the research discipline and/or objective of the study. The natural science literature views scale as an indication of an order of magnitude rather than a specific value (Schulze 2000). Scaling entails changes in processes and actors, upward or downward, from a given scale of observation. It recognizes the interconnectivity of scales and includes the important constraints, interactions, and feedback (lateral flows) that may be associated with such changes in scale.

In governance research, this concept is understood more as linkages between various levels of governing bodies, local, national, and global that are used to further their own interests (Adger et al. 2005). Institutional interplay at different levels can be highly asymmetric or relatively balanced. In the Mekong region, for example, central state agencies have authority to create formal rules, while community-based institutions can make adjustments to the operational management of irrigation and flood protection (Lebel et al. 2006).

Cash et al. (2006) distinguish between the terms "scale" and "level." "Scale" refers to the spatial, temporal, quantitative, and analytical dimensions that are used to measure any phenomenon. "Levels" are units of analysis that are located at different positions on a scale. The concept of nested governance also appears as a potential definition of multilevel governance (Ostrom 1990). For example, national rights definitions will establish more specific legal relationships and procedures for the application in national territories. Cross-scale relations imply that processes at any particular scale involve stakeholders from the other scales.

Participation of various stakeholders. Across the literature, the state and its various agencies with authority at different levels are mentioned as crucial actors in effective NRM. Swallow et al.'s (2001) watershed management study shows that the state can play a variety of roles at different scales. It can facilitate the development and effectiveness of local organizations (local level), provide assistance through policy and financial support of group activities (municipal level) and promulgate favorable policies that help local organizations to be effective (national level). This study also shows that donor organizations want NGOs as facilitators of watershed management because they are thought to be participatory and willing to listen to farmers' concerns.

Rehington et al. (2006) point out that it is critical to pay attention to multi-local bridging arrangements and linkages between villages and nonlocal actors (advocacy NGOs). The bridging relationships with external actors have their own impact on local capacity to respond to changes and pressures. These abilities have often resulted in interesting renegotiations of the relationships between villagers, village government, state and business.

Types of scale. Different researchers propose various types of scales and levels to be considered in natural resource management; each often corresponds to the type of management action that is being undertaken. Below are some of the common types of scale:

- the scale of analysis:* from plant to plot to farm to watershed to region;
- the scale of intervention point:* high-level interventions such as policy changes, adjustments in institutional arrangements or property rights, and the fostering of collective action vs. lower-level interventions such as farmer experimentation or extension for specific practices;
- the scale of investment in intervention strategies:* small versus large investments in extension, farmer experimentation programs, or efforts to provide information to policy makers;
- the scale of community empowerment:* the number of communities able to undertake their own research and adaptation through programs for local learning;
- the scale of geographical coverage of an INRM practice:* whether it is limited to a village or watershed or has attained regional or national relevance; and
- the scale of impact:* for example, the extent to which desirable outcomes, e.g., improved system productivity and resource quality, have been achieved through INRM research.

There are links between these scales. Greater impacts are generated from higher levels of investment in sustainable intervention strategies, or from more efficient use of these investments through greater reliance on community empowerment, leading to expanded geographical coverage of sustainable practices.

On the other hand, Swallow et al. (2001) see scale as hierarchy and as magnitude. Hierarchical scale comprises processes by which higher-level scales impose constraints on lower-level scales. For example, national level laws constrain jurisdiction and autonomy of local level policy makers, while local bodies have very little impact on the formulation of national laws. Cash et al. (2006) distinguish between the geographical, or spatial scale, and the temporal scale. Temporal scale implies division into time frames related to rates, durations, and frequencies of natural phenomena.

Closely related to these scales is the jurisdictional scale, which is defined as clearly bounded and organized political units, such as towns, counties, states or provinces, and nations, and constitutional and statutory linkages among them. Other scholars see the primary distinction in scales to be along spatial and temporal dimensions. Gottret and White (2001) show that the measurement of impact across spatial scales is a key issue in the impact assessment of INRM research.

4.2.2.2. *Approaches to matching scales to resource governance*

Most of the literature on multilevel governance in relation to natural resources adopts two contrasting approaches. "Big Government" and "Small is Beautiful." Murphree (2000) argues that while both of these approaches represent attempts at matching scales, both have problems. The "Big Government" approach imposes conventional NRM by government agencies, often failing to recognize existing systems of cross-scale/cross level interactions in resource use (Mwangi and Ostrom 2009). This locks in patterns of resource use, reduces flexibility and undermines the ability to adjust to sudden shocks, such as climatic variability (Adger et al. 2004).

"Small is Beautiful" seeks to place jurisdictions at local or communal levels. Small jurisdictions are more transparent to their constituencies and more politically acceptable. Controls exerted through local peer pressure are tighter and more efficient than prescriptions from afar. "Small is Beautiful" is more capable of linking management inputs and output benefits, which is important for allocating responsibility and motivating environmental investments and controls. Furthermore, the important linkages between responsibility and authority can be coordinated under one local institution or explicitly articulated among the range of actors involved (Lovell et al. 2002). For "Small is Beautiful" the problem is maintaining links across spatial, functional, and ecological scale (Murphree 2000).

Several solutions have been proposed to address the problems of these two broad policy approaches: decentralization and participation. Both approaches involve the transfer of decisionmaking and political power from central to more local levels such as district, county, parish and communities (Blaikie 2006). Other related reforms include "downward accountability," the granting of a significant degree of decisionmaking autonomy to local bodies, and competent local institutions (Kibut 2001).

Community participation in resource governance. Community participation in NRM has been promoted widely for the past few decades as a bottom-up way of creating multiscale governance linkages. By giving people a stake in the process, community participation enhances the prospects of efficient, equitable and sustainable joint action (Blaikie 2006), especially for communities that have an integrated social structure and common interests. However, Lovell et al. (2002) show that bottom-up initiatives require support from external agencies in order for them to function effectively. World Bank-supported watershed development, for example, has been criticized for investing in infrastructure without ensuring on-the-ground support for continued maintenance. On the other hand, NGOs that achieve institutional sustainability in individual villages often cannot replicate their models rapidly. Clearly, a balance is required.

Blaikie (2006) shows that even though this approach was an established policy goal for rural development in Africa, it was often subverted by postcolonial states that favored centralization of power and by foresters, agricultural researchers, and extension officers who regard local participation as professionally disempowering.

and a distraction from scientific objectives. In Indonesia, Bebbington et al. (2006) demonstrate that projects aimed at increasing local participation in economic development in Indonesia were driven by state and local elites. This limited the opportunities for local communities to link to other actors. The state also facilitated private sector investment excluding local communities, which not only undermined local livelihoods but resulted in an uneven distribution of assets and capacities. Co-management – a sharing of power between governments and local communities – has been proposed as one way of minimizing the risks of community participation/CBNRM approaches (Cash et al. 2006).

Decentralization and cross-scale coordination Co-management in NRM is closely connected with decentralization, a second, top-down approach to creating linkages across scales. Overall, the literature is mixed on the ability of decentralization to promote local participation and deliver lasting and equitable governance arrangements for sustainable resource management.

In their study of decentralization reforms in the Bolivian forestry sector Anderson and Gibson (2006) examine both the positives and negatives of these reforms. Proponents of decentralization believe that it will increase accountability because local governments are more responsive and accountable than central governments. They also have better information on the local conditions and preferences, and will thus make better decisions regarding the provision of public goods. Opponents of decentralization believe that these reforms may reduce local provisioning of public services because local elites are more able to divert public funds for their own interests than a central government. In Central Kalimantan, Indonesia, for example, decentralization resulted in ambiguous rights and rules over forest resources and thus increased deforestation (McCarthy 2003).

Veron et al. (2006) also find that decentralization is prone to several pitfalls that hinder transparent and equitable linkages across governance levels. Decentralization reforms create new elites at the local level who become the local networks of corruption. Thus, corruption from centralized authorities is decentralized to the local level, to the newly emerging class of political entrepreneurs that did not exist before. They conclude that participatory decentralization and the strengthening of horizontal accountability does not prevent corruption. They suggest that there is need for both upward and downward accountability and that the effectiveness of decentralization also depends on the strength of centralized government institutions.

A study on the decentralization reforms by Wardell and Lund (2006) show that decentralization is beset with contradictions. They may emphasize local resource users yet postcolonial administrations often restrict or suspend customary communal rights. The resulting new legal framework came with stricter rules, but noncompliance with and nonenforcement of the rules created space for rent seeking by local public authorities. In addition, as shown by Bebbington et al. (2006) in Indonesia, state involvement at the local level can become an instrument of social control. The shortfalls of decentralization are summarized effectively by Ribot et al.'s (2006) cross-country studies that show that instead of linking

institutional scales, central governments undermined the ability of local actors to make decisions. The scales of decisions are transferred, and chose local institutions that serve and answer to central interests.

While decentralization is a promising mechanism for linking NRM institutions across different levels, the politics and policies for pursuing it are complex, situation-specific, and face many obstacles, as Larson (2002) shows. However, there is evidence that decentralization empowers local people to identify their own costs and benefit from a sense of ownership in decision (McCarthy 2003).

Summary of approaches, preconditions for successful multi-level governance. Participation and decentralization approaches have not been completely effective in linking different governance actors levels. There is multiple evidence that they lead to elite capture and even negative resource outcomes. Poteete and Ostrom (2004) note that the attributes of a resource, the attributes of users, and the institutional environment are key factors that need to be considered in fostering collaboration across scales for NRM.

Group characteristics such as size and homogeneity become important in dealing with coordination and distributional issues (Poteete and Ostrom 2004). Heterogeneity in groups can exist along several dimensions (such as gender, power, wealth and assets, ethnicity, production system, position on a watershed, etc.) and will tend to increase with group size. But it is important to find out which types of heterogeneity can increase cross level cooperation (by creating incentives to collaborate, for example) and which may impede it (by undermining trust, for example).

Thus it remains an open question whether radical decentralization is a precondition for effective forest management. Collective action, be it vertical or horizontal, is costly. In addition to obtaining information, actors must overcome coordination problems, distributional issues and the incentive problems associated with common-pool resources and other resources (Poteete and Ostrom, 2004). Local autonomy may be conducive for successful management of common-pool resources such as forests, but it is not sufficient. Acting alone, communities may not be able to defend their forest resources from other communities or takeovers by state agencies or private corporations. Thus, linking between scales is necessary for effective and sustainable NRM.

Murphree (2002) suggests a way to link the efficacy of local jurisdictions with the scale of resource systems, while dodging the top-down pitfalls of decentralization. The managerial requirements of specific resource systems need to be matched to jurisdictions no larger than necessary. Assigning increased authority and responsibility to local users without ascertaining the range of functions of a resource, the diversity of interests among users and the capability of local institutions to take on these roles, will complicate rather than solve problems.

Conclusion

Overall, governance arrangements for INRM must be an appropriate mix of local and state institutions, with strong support by central state authorities. State institutions are needed to provide support for the formation or strengthening of these local institutions where they are nonexistent or weak, and to mediate conflicts and enforce resource use agreements worked out by the different local groups (Ostrom 1990 and 1995).

It is impossible to capture and account for the true complexity of human-resource interactions without disaggregating by scale and looking at cross-level linkages. There is wide agreement as well that the type of institution must be matched to the scale of the resource while fostering accountable cross-scale linkages among multiple actors. There is value in both the top-down approach of decentralization and the bottom-up approach of community participation. Yet both approaches are susceptible to some common problems, especially elite capture at different levels, which can ultimately hinder healthy cross-scale linkages.

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The Atmosphere as a Global Commons

By Ottmar Edenhofer, Christian Flachland and Bernhard Lorentz

Competition and private property rights unleashed capitalism in the 19th and 20th century by enabling unprecedented economic and population growth. This growth was based on a lottery prize – the discovery of coal, oil and gas supplies (Sombart 1928). Humankind used to eke out a diminished existence in the northern hemisphere until well into the 18th century. People depended on the flow of solar energy. Food, fodder, heating and mechanical energy were drawn from biomass production, water cycles or wind power. Insufficient food production, wars and diseases repeatedly set back the economy to the subsistence level. The discovery of coal and its deployment in industrial steam engines suddenly endowed humankind with huge amounts of stored solar energy. These assets liberated people from the whims of nature and enabled building up a physical capital stock.

The combustion of fossil resources in the global industrial metabolism came with a hidden cost – the conversion of the atmosphere into a free CO₂ waste disposal site. Today we know that the storage capacities of this disposal site are limited. Depletion of the atmosphere might cause dangerous and potentially catastrophic climate change. Thus, climate economists play the role of a spoiler by demonstrating to humankind that its "carbon debt" might outweigh the fortune of resource supplies. What was once considered a lottery prize now turns out to be a burden.

Is climate protection destabilizing the foundations of modernity?

Will the abandonment of coal, oil and gas set back humankind to subsistence levels? More than once the Intergovernmental Panel on Climate Change (IPCC) has been accused of destabilizing the very foundations of modernity. Large companies have mobilized strategists to discredit climate change by likening it to an attack on the modern liberal civilization. A simple correlation is ingrained in the historical memory of humankind: all nations that overcame poverty and became rich via industrialization used coal, oil and gas. No prosperity without fossil energy sources!

However, if it is true that overconsumption of fossil energy sources will melt off ice shields, dry out the rainforests, acidify the oceans, result in more frequent floods in Bangladesh and dry up harvests in Zimbabwe, then developing countries

are facing an apparently tragic decision: either induce dangerous climate change or engage in dangerous emissions reductions, either pursue climate change mitigation without economic growth or economic growth without climate change mitigation.

As this suggests, a central question of global climate policy is whether decoupling wealth and emissions is feasible. Some observers in the environmental movement are hoping that market mechanisms will inevitably and automatically mitigate climate change. They argue that the limited supplies of coal, oil and gas will lead to increasing resource prices that in turn will induce a rapid switch to renewable energy sources and energy efficiency. This, however, is an illusion. Up to 15,000 billion tons of CO₂ are still stored underground, mostly coal that can be used for generating electricity, heating houses, and even for using coal-to-liquid processes to produce transport fuel. Hoping for a rapid, relative cost decrease of renewables is dangerous since this hope might deter further climate policy efforts. Renewables have indeed experienced large cost reductions in recent years, but their share in meeting global primary energy consumption is only about 12 percent, with half of that coming from traditional biomass (IPCC 2011). Without dispute, prices for fossil energy sources will rise at some point and costs of renewables will decrease. The question is: Will this structural change come about in time? The answer from almost all scenario calculations reviewed in the IPCC Special Report on Renewables (IPCC 2011) is: no.

Therefore, in order to achieve effective climate change mitigation, dedicated policies are needed to constrain global emissions. Scenario calculations show that with a cost-efficient transformation of the global energy system – and the exploitation of energy efficiency measures, renewable energy as well as carbon capture and storage technology (CCS)¹ – the global GDP loss could be limited to a very few percentage points (IPCC 2011). However, mitigation costs will rise if certain technologies such as renewables, in particular bioenergy or CCS, are not available (Edenhofer et al. 2010a). The next IPCC Assessment Report, due in 2014, will deliver a comprehensive overview of the current research on these questions.

The atmosphere as global common

The prosperity of the 21st century will be determined by the sustainable management of the global commons. This is a new challenge for the future of our economic system. Even if everybody benefits from a sustainable usage of global commons, there are incentives for free-riding. With every nation thinking this way individual shrewdness turns into collective stupidity. Some form of cooperation will be a survival condition for humanity.

The atmosphere is a global common-pool resource in its function as a sink for CO₂ and other greenhouse gases. Currently, it is a “no man’s land” that is available to everyone free of charge. Oceans and forests are closely linked to the atmospheric

sink through the global carbon cycle and absorb some of the anthropogenic CO₂. Interestingly, oceans and forests are also global common-pool resources that serve as important sources of biodiversity, exhaustible minerals and fish resources. However, the atmosphere and the oceans are threatened by excessive CO₂ emissions, and the forests are being depleted by increasing food and bioenergy demand.

The climate conference in Durban in 2011 – yet another attempt to deal with these new scarcities – failed to nail down a binding roadmap for global emission reductions. Solving this issue is a challenge to the international community. This challenge can be outlined as follows (Edenhofer et al. 2011). In order to assure with medium probability that the temperature of the global atmosphere does not rise another 2 degrees – the current target – only about another 750 billion tons of carbon dioxide can be disposed into the atmosphere. A less stringent target allows for another few additional hundreds of billion tons only. With 33 billion tons of global CO₂ emissions disgorged by the global energy system in 2010, it can be easily calculated that the atmosphere as a disposal site will be full in only a few decades. Hence the use of fossil energy sources must be capped globally.

This will precipitate profound distributional conflicts. If climate policy means that a big share of fossil resources is left unexploited, this involves a devaluation of the assets of owners of coal, oil and gas resources. Moreover, the scarce atmospheric exploitation rights need to be equitably distributed between Africa, China, the US and other world regions. The political process would also need to determine how many atmospheric exploitation rights the next generation would be entitled to. In light of all these difficulties, it is astonishing that there are actually even attempts to reach a global agreement.

Is the efficient and equitable use of commons bound to fail? Elinor Ostrom demonstrated that communities on a local level can in fact enforce effective rules of use (Ostrom et al. 1994). Whether this capability can be replicated at the global level remains unclear. However, it would be dangerous to wait for the establishment of a global government that could regulate the climate according to a fully worked-out scheme before taking stringent climate change mitigation measures. There will not be a world government in the near future. But the management of the atmosphere as a global commons does not require one. In fact, it requires nested, interlinked policies at the international, national, regional and local levels. Elinor Ostrom and others call this multilevel or polycentric governance (Ostrom 2011).² The question is: Which level is responsible for which issues, and how they can be coordinated?

In order to set out the legal framework for national commitments the international level is indispensable. The principles of burden-sharing, the support of developing countries, and a deliberative coordinated plan to prevent free-riding must be tackled at this level.³ At the national level, subsidies for fossil-fuel consumption – worldwide around US\$400 billion in 2010 (IEA 2011) – could be

1 | Editors' note: CCS is a controversial emerging set of technologies that capture CO₂ from large point sources and transport it into underground geological formations and kept out of the atmosphere.

2 | For more, see the essay by Helen Marshall and Esther Mwangi on pp. 379–388.

3 | Prue Taylor advocates a reevaluation of the principle of the common heritage of humankind on pp. 353–360.

phased out and spent on boosting renewable energy technologies. At the regional level, regions like California, Australia, and several large Chinese provinces are presently developing renewable energy systems in a way that is spatially uneven. Regarding the environmental integrity of these systems, the choice of the absolute emissions cap will be crucial. At the local level, cities could reduce their emissions by changing public transport systems and car sharing, as well as by building infrastructure. An estimated 496 billion tons of CO₂ will be emitted over the next fifty years just due to the already existing energy and transport infrastructures (Davis et al. 2011). In other words, there is little scope for further fossil-fuel based infrastructures.

An intergovernmental agreement remains indispensable. Otherwise emission reductions in one region will always lead to increasing emissions in other regions. However, waiting for a global contract before starting to implement good prototypes would effectively stop the development of climate policy. Such prototypes can prove, especially to emerging economies, that emission reductions do not entail decreasing wealth.

We are only gradually beginning to realize that global common-pool resources are assets to humankind that should be managed as commons. Wasting them would be disastrous. We are trustees of these assets and thus, trustees for future generations. We have the duty to invest so as to increase or at least maintain these assets. However, the distribution of a fixed carbon budget between humans can be a zero-sum game in which the gain of one country is the loss of another one. This is why some of us are very pessimistic about the chances of developing a global climate policy. The zero-sum dilemma can only be overcome by beginning a prudent transformational process that can decarbonize the world economy.

Maps of knowledge

In order to tackle this task we still lack necessary knowledge. We require a better understanding of economic growth patterns in industrialized and developing countries as well as in emerging economies. The development of "hard" infrastructures like electricity grids, roads and apartments as well as "soft" infrastructures like education and health services need to be better understood. In particular investments in durable hard infrastructure will define emissions patterns for decades (IEA 2011). We are facing the question how to build up urban infrastructures in China, India and Africa without permanently increasing global emissions drastically. The international division of labor between spatial agglomerations determines not only the export and import of goods and capital but also of CO₂ and resources (Peters et al. 2011). How can we assure that international trade does not lead to the waste of regional commons?³ In order to tackle these problems we need to improve our understanding of how effective subsidiary and polycentric governance can work on multiple levels.

We need maps of knowledge pointing out feasible pathways for a sustainable management of global commons and their dynamics of use while exploring risks and uncertainties in the light of different value systems. This is the intention of the

recently founded Mercator Research Institute on Global Commons and Climate Change (MCC). The maps that MCC intends to produce in cooperation with its partners will neither replace travelling nor will they prevent us from the surprises that travelling entails. However, travelling without maps can easily lead into the swamp or, for that matter, to going round in circles.

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Transforming Global Resources into Commons

By Gerhard Scherhorn

The greatest problem of our time is that for centuries we have been steadily weaned away from treating our common resources responsibly and carefully so that they can either regenerate or be repaired or replaced after use. Until the Middle Ages local resources such as pastures, woods and fishing waters were really handled that way. But since the 16th century, when agricultural capitalism first began (Wallerstein 1974), these resources were enclosed and privatized by feudal lords. This soon led to the justifying myth that individuals take better care of their own property than communities. It was that myth which wiped out the ancient memories of responsibility for local common resources.

With global resources such as air, water, raw materials and entire ecosystems it has been quite different. These were once seen as inexhaustibly abundant, enabling everybody to use them for free and without any duties to preserve or replace them. In our day we have barely begun to realize that they are finally becoming scarce. But now it is property law that preserves the ancient perception of their unlimited availability. Since the law imposes few if any restrictions on access, the law continues to absolve owners of any obligation to respect global resources.

In seeking the reason we discover that this kind of freedom is the condition for an endless expansion of capitalism. The essence of capitalism is "to accumulate by dispossession" (Harvey 2003), since the progress of capital accumulation depends on the capability to find and exploit new external sources of wealth that can be appropriated.

In this sense property rights fuel the expansion of capitalism. They invite property owners to externalize costs on to those resources that ought to be treated as common property. Externalizing costs means using shared resources to the point where they are exhausted while failing to maintain or reinvest in them. The displaced costs are borne by the resources themselves, which are diminished and depreciated, as a way to boost profits. Thus property law encourages the opposite of sustainability. It promotes the relentless consumption of resources and thereby enhances capitalism. What we need is the contrary: to encourage sustainable ecological stewardship by reinvesting externalized costs, i.e., profits, into the preservation of resources.

A legal rule to preserve the global resources

In order to illustrate how this could be accomplished, take German property law as an example. Its central rule is laid down in §903 of the German Civil Law (Bürgerliches Gesetzbuch, BGB) as follows: "The proprietor is entitled, as far as neither the law nor any third-party claims stand in the way, to deal with his property at his discretion, and to exclude others from any influence." Now consider what might occur if the legislature would *alter* this rule by adding the clause, "... provided he upholds the responsibility to preserve the common resources he uses."

The term "common resources" would refer to Article 202 of the German constitution (Grundgesetz), which requires that "the state protect the natural foundations of life," and to the notable requirement in Article 14 2, "Property obliges. Its use shall as well serve the common welfare." The insertion would restrict individual property rights by imposing a duty to preserve any common resource the proprietor has used or caused to be used. In other words, a proprietor would be required to pay for replacement of what he used or consumed (just as he might pay the costs of preserving his private possessions).

Such a legislative amendment is needed because present laws constitute a barrier to sustainable stewardship of natural resources, and a particular barrier to the task of commoning. Peter Lindebaugh a term for the self-determination of commoners in managing their shared resources (Lindebaugh 2008). Without amending the law it would not only be difficult to create and manage local commons as exchange trading systems and complementary currencies (Jeter and Brign 2011). It would be nearly impossible to establish networks that manage the preservation of global resources as commons. Under current laws each single stockholder of a corporation can sue the management for having ordered investments in protection of the environment that go beyond existing law. Because corporations are so deeply committed – legally and economically – to make profits by externalizing costs, how could managers be persuaded to invest this profit into preserving the consumed global resources? It is impossible so long these resources are not acknowledged as common property.

Commoning the global resources, or some of them, must therefore begin with lobbying to convince legislative bodies to withdraw any legal rules that allow or even induce persons, companies, councils or governmental authorities to exploit global resources. Those rules must be replaced with responsible regulations preserving global resources.

The core of commoning is agreement and monitoring

That prerequisite being accomplished (or anticipated), the next step must be to transform a resource into a *commons*. The German term is *allmende* – a word that once referred to any local community of free people that decided on their common affairs by their own right; common pasture, common wood were historically just the most recent forms of the *allmende* before it was distanced (Grimm 1854). Today in reviving the term *allmende* we mean a common resource alone, but also the community that manages it as a commons. This is what the term "commoning"

means: Managing the resource as a commons, in other words actualizing the *allmende* principle – the principle that the community members moderate their demands on the resource by mutual agreement and mutual monitoring and enforcement (Scherhorn 2012, following Ostrom 1990).

Thus the core of commoning is that the community members agree on all rules of conduct and procedure, and that they supervise resource use by social control. They determine themselves – often supported by public authorities – how the resource shall be handled and what sanctions for violations shall be imposed. That makes the commons distinct from both the market and the state, which rely upon prices and instructions, respectively, to affect people's behavior. The members of a commons, by contrast, are motivated by their deliberate convictions, inner direction (Rickman 1950), or self-determination (Decl 1999), at least in smaller-scale commons. Commoners are surely not immune from anti-social behavior such as "free riding" deserving of sanctions, but such punishments are more likely to be effective if they have been agreed upon.

An example of a local resource commons, among many others, is the lobster fishery around the island of Monhegan on the coast of Maine in the US. In a case study, Princen describes it as

an evolving system of largely self-regulating fishery management, an evolution... a series of experiments that continues to this day... It has three major developments: a self-imposed half-year closed season formalized in a 190° state law; a self-imposed limit on the number of traps per lobster fisher instituted in the 1970s; and, most recently, an unprecedented, state-sanctioned limited access fishing regime for the island. The context is nearly two centuries of ever-increasing pressure on the lobster fishery along the Eastern seaboard of the US and Canada and the threat, realized in many places, of depletion and loss of livelihood (Princen 2003).

Global resources need local protection

Perhaps the only example of an effective global resource commons is the famous Montreal Protocol on Substances that Deplete the Ozone Layer, an international treaty which was signed 1987 by 48 countries and today has nearly 200 signatories. Over the years, the agreement has "been amended to further reduce and completely phase out CFCs, halons and other chemicals... Several subsequent meetings of the signing countries were convened to track overall progress... The full recovery of the ozone layer is not expected until at least 2049" (Encyclopedia Britannica).

The singular success of the Montreal treaty indicates how limited the range of effective agreements between states will be, especially if compared with the series of international conferences on climate protection. For the time being the attempts to build an international climate regime are altogether a trial-and-error process to transform a global open access resource into a global commons, as Wolfgang Sachs has observed (Sachs 2009).

Apart from treaties between states, there are currently two basic strategies for protecting global resources: emissions trading and commons trusts. Emissions

trading requires that the emission of CO₂-equivalents be restricted to the amount of emission rights the emitter has bought, and that the overall amount of buyable rights will be reduced over time. Hence the price of the emission rights will rise, the quantity of emissions will be reduced, and the climate system as a global resource will be preserved. A *commons trust* (Barnes 2006) is an independent non-profit enterprise assigned with fiduciary duties to look after the long-term interests of beneficiary commoners, and the power to sell and restrict emission and extraction rights. The trust should be assigned the sole responsibility of preserving a given common resource and be requested to distribute any remaining receipts to the people who hold a stake in that resource.

Both concepts depend upon governments to set effective, enforceable rules. But where preserving a common resource results in shortages, governments must withstand the concentrated pressures exerted by buyers, sellers and workers who insist upon economic growth as a source of earnings, sales and jobs. The Monhegan example shows that such pressures can be overcome peacefully if one group of buyers, sellers, and/or workers who are strongly motivated for sustainable development defend their interest in resource preservation against other groups with somewhat lower legitimization. The state's role is then to mediate the conflict instead of imposing a regulation influencing people's decisions by outer stimuli like prices or instructions.

A network for sustainability

The above-suggested legal regime – which stipulates the preservation of natural resources and thereby forbids the externalization of costs – would be a general rule intended primarily to stimulate a general understanding that we are as responsible for our common resources as for our private plants, facilities and investments.

At the same time it would be the basis of specific regulations that may prove to be a necessary condition of legal security. Since externalizing is still common practice, however, it would not be reasonable if we left it wholly to government authorities to find out and prescribe how externalization should be avoided or compensated in each of numerous specific situations. The general rule, if it were in force, would open a second way. It would encourage those who prefer cost internalization to contribute to that search process by joining in communities that work out agreements on what is needed to preserve specific common resources after use. These communities can be characterized by four basic elements: 1) community members 2) who moderate their demands on the resource and reinvest in its preservation by 3) mutual agreement and 4) mutual monitoring.

1) The kind of cooperative social relations that result in taking care of a common resource can arise among suppliers of a specific product as well as among consumers. Suppliers who compete with each other are more aware than others of each other's actions and even costs, and consumers may be in contact with each other through civic associations, Internet communities or advocacy organizations. In either case, the contacts can be local, national or worldwide.

2) Commons of either consumers or suppliers can arise if the need to moderate demand for a specific resource – copper, wheat, fish, oil, electricity, water, soil, etc. – becomes evident, perhaps because the resource is becoming scarce, its price is rising or will rise, or the means can be found to use less of it – through recycling, substitutes or alternatives in production.

3) Mutual agreements between competitors are prohibited by law if they restrain competition, but that should not hold for agreements to internalize costs.

4) Mutual monitoring is a kind of what sociologists call informal social control. It occurs continuously since competitors cannot help but notice and observe each other, and buyers cannot help but compare and assess products and suppliers, and exchange their knowledge among themselves.

These four elements could themselves meld into a network of commons because a growing number of both suppliers and consumers who long for the opportunity to preserve the resources, will be motivated to preserve the resources they use and to prevent others from continuing to externalize costs, which until now has worked to the disadvantage of those who want to internalize costs. Thus their activity would be helpful and even necessary to enforce the law, whether by recommending a government mandate or by agreeing on customary procedures as substitutes for mandates. In either case, a commons would likely be superior to an external government authority because competitors can better judge whether and what costs are being externalized than any public prosecutor or district attorney, and criticism by civic and consumer associations can be more powerful in persuading a firm to internalize its costs than the risk of litigation (provided there were a legal basis).

In order to make it easier to join in commons of the type indicated, the legal basis for accountability should be even further broadened by amending the competition law, too, which under the current property law forces competitors to externalize costs. Any hidden externalization of costs should from now on be treated as unfair competition, which is principally forbidden by law in several European countries and most states of the U.S., although with different provisions. Take, for instance, the German law against unfair competition (*Gesetz gegen unlauteren Wettbewerb, UWG*). It prohibits a supplier from enjoying a competitive market advantage by making deceptive claims about its product(s) as misleading advertisements or taking advantage of consumers' lack of knowledge.

The amendment would consider it unfair competition if a company hides its externalizing practices rather than paying the full costs of protecting or renewing them. Since the UWG permits competing enterprises and civil associations like consumer unions to sue a firm for unfair competition, one can imagine that conscientious firms trying to preserve global resources would use this legal provision to prevent their competitors from achieving an unfair market advantage. And since courts can decide that profits from unfair competition be transferred to the federal budget, management would prefer to reinvest in and protect global resources rather than to be accused of externalizing costs.

Entrance to new perspectives

In this way amendments to property and competition laws could help bring into being a network of commons-like communities of enterprises, civil associations and individuals that would monitor the use of global ecological resources. While there is a huge variety of separate problems that have to be solved in this field, encouraging the formation of commons would not only be an effective way to enforce the law but also a way to bring about a general awareness of common resources and everybody's responsibility for them. This, in turn, could open the door for two hidden implications of sustainability that are already knocking at it but aren't allowed to enter:

First, by getting serious about preserving global resources and ~~acknowledging~~ that markets are not inseparably joined to capitalism (Braudel 1977), sustainable development could become separated from capitalism but aligned with the market economy.

Second, not only natural resources ought to be treated as global commons, but so should the many socially organized institutions that provide employment opportunities, public health systems, educational opportunities, social integration, income and wealth distribution, and communication systems such as the Internet.

To put it in a nutshell: Sustainability is commoning global resources by applying the commons principle of wisely moderating demands on common resources. It is time to ask what perspectives will open up when we proceed this way.

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Electricity Commons – Toward a New Industrial Society¹

By Juno Lämbling

From the beginning the modern energy industry was shaped by enterprises. They played a leading role in the development, distribution and commercial use of electrical technology. As a result of complex technological and political developments, a centralized and at the same time networked production model asserted itself. The logic of economies of scale² and “balanced load management” describes the technological rationality of this process: the larger and more diversified the number of electricity consumers, the more the different user behaviors balance peaks in demand. And the larger the power plants that generate the electricity, the more effectively it can be produced and the lower are the costs per kilowatt hour generated.

As a result of this logic, large power plants have supplied large numbers of electricity users via a power grid. For about half a century, in all industrial nations, public policy has decreed that electricity suppliers should be able to act without any competition within their supply areas. In return, pricing policies and investments are controlled or regulated by the authorities and the electricity companies can even be owned by the public sector. The electricity supply system that emerged in the 20th century, therefore, was highly monetized, external to users’ homes and businesses, and administered in hierarchical and highly centralized ways.

Beginning in the 1980s, a restructuring of the energy industry began. Public policies that liberalized and privatized energy markets dismantled the ~~monopoly~~ monopoly of electricity production. Electricity suppliers were to be exposed to competition, and vertically integrated, interconnected companies were broken up into different levels of the electricity business (electricity generation, transmission and distribution). The aim was to make the grid available for every provider to

supply its customers without discrimination, making it necessary to separate electricity producers from the network operators, at least legally, but if possible also in terms of ownership. The electricity consumers themselves were to determine from whom and under what conditions they would receive their electricity. This was coupled with the hope that competition would push the power supply industry to more cost-effective and demand-oriented structures, a higher degree of cost ~~effectiveness~~ ^{effectiveness} and a more ecological ~~production~~ ^{production}.

However, the ~~restructuring~~ ^{restructuring} of the electricity industry, which ~~was~~ ^{was} intended to increase public consciousness since the 1990s, illustrate the limitations of a liberalized, private sector-oriented electricity market. Not only has the combustion-based energy production system led to an unprecedented plundering of fossil resources at the expense of future generations, it has also produced an unprecedented human-generated threat to the ecological system. According to a wide consensus of the climate science community, CO₂ emissions must be reduced worldwide by at least half, and in the industrial countries by 80 to 95 percent, to avoid dangerous climate change. The electricity sector can only reach this goal in an ecologically and socially sustainable way if, in addition to enormous cuts in consumption in all areas, it also implements a full supply of electricity from renewable energies.

Additionally, we must significantly reduce our consumption of other resources, which massively endanger many biological systems, such as oceans, soils, virgin forests, animals and plants. The industrialized nations also use substantially more of the world’s available resources, and they pollute a far disproportionate share of the planet’s ecological storage reservoirs relative to the worldwide population. The old European systems of electricity supply were ultimately based on the specified goal of supplying even the most remote human settlement with electricity. This meant that networks and production in Europe were usually under public control and were seen as common goods. In principle it was thus possible to politically control and directly determine the financial and technological activities of electricity producers. In the liberalized market, however, individual companies do not have an intrinsic motivation to promote anything else but maximum company profit. Based on the purpose of their business, electricity companies cannot therefore have any real interest in reducing the overall consumption of electricity in society. Their obligation to maximize profits will constantly incentivize them to circumvent politically imposed conservation measures, cost reductions and mandates to lower carbon dioxide emissions.

In addition, a fundamental investment problem is emerging in the liberalized electricity markets: an aversion to the construction of new generating plants and electricity networks that are necessary for a full supply of green electricity. The temptation is great to use the existing technical infrastructure for as long as possible, instead of making new long-term investments.

1 | This article would not have been possible without the efforts of Sebastian Galiehl. I am very grateful to him as well as to Stefan Ulreich, Hans-Joachim Ziesing, Thomas Menner, Helmut Grottel, Daniel Dahm and Marian Bichler for the many valuable insights I received from them when preparing this contribution.

2 | This concept is based on cost advantages that may arise through the expansion of a company. In this case, the ~~average~~ ^{average} cost per unit of the goods that are produced. This ~~is~~ ^{is} because the ~~total~~ ^{total} cost of production is divided by the number of units produced. The ~~average~~ ^{average} cost per unit decreases for larger purchases and interest costs are often reduced when raising capital for large-scale investment projects.

Designing a commons-based electricity supply

As was the case when the nationwide electricity infrastructure was first built, so today we are again at a crossroads. We can and must choose what organizational and technical structures will be used in the future. The liberalization of the electricity market has broken up entrenched structures of production and distribution, and has made them more transparent. At the same time, however, it has created new obstacles when it comes to combating climate change and lowering the consumption of resources.

But if we must obtain our electricity supply from planetary common resources – the Sun, wind and water – it is worth exploring how the commons perspective might guide a reorganization of the electricity industry. The commons may well play a vital role that both complements and goes beyond the approaches taken by the state and by the private sector.

Based on the fundamental design principles suggested by Elinor Ostrom, the elementary structure of an electricity commons can be described as follows. The conventional binary usage structure of buyer/seller (or for governmental organizations, authority/electricity customer) would be replaced by a *user community* whose members regard themselves as both electricity customers and electricity producers. The scope and boundaries of the electricity infrastructure that is used and the group of beneficial owners must therefore be well delineated. Here, too, the behavioral patterns, the number of electricity consumers and the energy intensity of private as well as commercial activities determine the electricity consumption, the required output and thus the dimensioning of the power plants and electricity grids within this commons. The less electricity consumers use, the less they must produce.

A balancing process must thus occur. On the one hand, there are the positive effects that new electrical devices will have for the quality of living and the freedom to act for households and businesses. On the other hand, these changes will influence the consumption of electricity and the necessary production capacity. The designers of any new system of electricity production and consumption must consider both the investment and the maintenance costs for electricity production and grids as well as the stresses caused by local and global consumption of resources.

If we are to create an optimal balance here, a rich set of procedures, skills and behavioral attitudes must be developed and practiced to ensure the effectiveness of such an electricity commons. For this to occur, rules will be required for the consumption, distribution and provision of the electricity. They must be finely tuned and coordinated with each other, likewise they have to take consideration of local social, natural and technological conditions. Consumers are not simply at the mercy of these rules and conditions, instead, they participate in their creation.

The appropriate handling of electricity consumption and production must be monitored by the consumers themselves or by persons who are legally accountable to them. Violations of rules and standards must be punished by a graduated series of sanctions that the consumer community regards as reasonable and fair. Should conflicts arise they should be resolved immediately and at the local level if possible. This requires inexpensive and instantaneous communication among the consumers. Conventional public authorities that are accustomed to centralized bureaucratic command-and-control need to recognize the functional efficiency of *distributed governance*.³¹ You may have trouble accepting this, but the Internet has already demonstrated the feasibility even of interacting networks of such entities.³²

There are three factors that impede the creation of electricity commons based on close producer-consumer collaboration. First, the construction of new *production capacity* is more expensive than *consumption*. This is especially true for the production of renewable energy, since the cost per produced kilowatt hour for such technologies is still more expensive than for large-scale fossil technologies. Second, a new infrastructure for electricity production (such as utility poles, windmills or agrarian monocultures for biofuels) has an effect on the landscape and will thus affect a larger circle of people whose interests must be integrated into the commons decision-making process.

Third, the technical advantages of electricity grids tend to promote a larger, integrated system of consumers because a larger consumer base requires less power production per access point (household or business), thus reducing costs. This reality stems from the fact that people turn on their vacuum cleaners, toasters or saunas at different times. The larger the grid, the less additional production capacity per access point is needed to meet peaks in demand. The investment costs for each individual customer are reduced. However, the number of members of the electricity commons must therefore be very large, resulting in the need for more complex social and organizational procedures.

On the other hand, it is precisely this grid structure of electricity production that is so helpful in maximizing efficiency and that makes communalization of electricity logical and attractive. Someone who lives "off the grid" and is self-sufficient in energy does not need or want a commons system. But although much praised in green circles, such idealized models of energy inefficiency and social atomization and isolation cannot be a solution for society as a whole. A network of energy users implies interaction between the users. If these interactions occur deliberately and with foresight, the result is collaboration. In addition, if the overall consumption of finite raw materials is going to be reduced – a vital necessity for our times – then we will need to use electricity grids and energy consumer commons to reduce consumption while maximizing efficiencies.

³¹ See p. 163.

³² This includes both the direct use and harm of landscape that construction of power lines represents, and the indirect effects of the power lines on the landscape, such as the loss of biodiversity and the loss of cultural heritage.

Hybrid forms of commons in the existing electricity landscape

Is such a design realistic? In a decentralized scenario oriented toward renewable energies, it seems natural for local groups to set up their own electricity production capacities and influence the collective usage behavior wholly onsite. But in a liberalized electricity market, it is also always possible to establish local producer-consumer electricity commons. The market leaves open the question of who feeds power into the system, who purchases it and how the relationship between the two is shaped. As a practical matter, however, due to the existing economic, political, and technical configurations of our energy infrastructure, only hybrid forms are possible—at least as a first step.

One familiar commons-based type of electricity supply is the energy co-operative. In recent years, a number of cooperatives have arisen in Europe (along with other financing models) that have made it their goal to fight climate change and finance "green" power plants. The "purest" form of electricity commons are ones in which the cooperative is both owner and operator of the production plants and power grid as well as the community of electricity customers and decision-makers regarding the infrastructure (members of the cooperative).

In reality, more or less all cooperatives deviate from this ideal. The *Facktrik-udnætker* Schönow (1 WS) is one of the rare examples in which the members of the cooperative own the electricity production plants as well as the power grid. However, there are far more customers of 6 WS electricity (100,000) than direct coop members (approximately 2,000), so the user community is not coextensive with the community of decision makers. By contrast, the 30,000 customers of the Belgian electricity cooperative *ecopower* are at the same time members of the cooperative and thus owners of power plants as well. (A significant number of them were also involved in the planning of production plants. The services of the grid operator, however, are accessed within the framework of the normal electricity market.)

Also noteworthy are the many production cooperatives for photovoltaic plants that directly use their own electricity. Most other electricity generating cooperatives ("green" production plants, wind turbines and bioenergy power plants) can only establish a mathematical correlation between the amount of electricity they produce and the amount of electricity their members consume - because they sell their electricity to the grid or rely upon feed-in tariffs to the public community of electricity customers.

As consumers become more closely integrated into local electricity generation, it affects the ways that they consume electricity. This becomes more striking still – and also controllable in differentiated ways – through the use of “smart grids” and “smart metering” technologies. The more accurately the actual energy consumption can be determined at each point in time, and the more information systems make it possible for small consumers to inform themselves of their

5) Feed-in tariffs are a widely used mechanism for encouraging renewable energy. They involve a guaranteed price for electricity generated from renewable sources. The generator has to purchase this electricity at a guaranteed price, fixed by the authority. Usually the costs will then be apportioned to all electricity customers in the regulated area.

current usage and the overall capacity situation, the more user communities can control their behavior. The possibility of so-called "Negawatt power stations" – i.e., a coordinated, collective reduction in demand within a defined or even predicted time period – is increasingly realistic. Smart grid technologies also make it possible to harmonize the electricity production of different plants, or to bring together selected production/consumer communities economically into a single network.⁴

This makes it possible to create a multistage control system: An overcapacity in one community can be used to compensate for demand peaks in other communities. In terms of energy economics, this corresponds to a "balancing group" — a definable system of energy flows within which supply and demand are balanced. This constitutes a virtual network within a physical network.

The possibility of monitoring and controlling the production and usage behavior of the user communities will increase enormously if they are provided with solutions for using smart metering and smart grids within their area of responsibility. Access to these technologies is crucial for the question of self-determination. Who will be able to and have the right to install the corresponding technical equipment? Who will control its functioning? Who will be able to use it and thus, for example, have access to personal data concerning usage or even the operating characteristics of individual household appliances? For smart metering and smart grids, technological competition and battles for economic and institutional power have already begun between open source solutions and open standards on the one hand and closed, proprietary approaches on the other. The right of citizens to have "data sovereignty" is about to become a major political conflict with implications for energy policy. The results could determine if and how electricity commons are functionally possible.⁴

The appeal of communal provisioning of electricity may also fuel a new movement in civil society and politics to reappropriate the power industry. In Germany, thousands of concession contracts between municipalities and distribution network operators are due to expire in the year 2016. As this date nears, a wave of remunicipalization efforts is emerging in which municipalities are trying to seize the economic advantages of local provisioning while giving their inhabitants a greater personal stake in achieving the common welfare. About 40 new public utilities have already been established in Germany since 2007.

6) The "smart grid" concept relates to the intelligent control and coordination of power electrical appliances in order to adapt their consumption to the capacity of the power system, or to automatically adjust the electricity usage to the capacity situation at any given moment. Smart meters, which can be controlled by the power grid, and which can also adapt the current output situation of the grid through light signals, are also part of this technology.

7. Examples of the first kind are the "mySmartGrid" project of the Fraunhofer Institut IZM AG (www.izm.fraunhofer.de) in Berlin, Germany, and the Total Grid Community (www.totalgrid.org) in California, and the Total Grid Community (www.totalgrid.org).

The Failure of Land Privatization: On the Need for New Development Policies

By Dirk Lohr

As soon as we start speaking about "globalization," we inevitably associate it with the excessive financial markets that are disconnected from the real economy. There is less public awareness of another type of globalization that also involves the forced unification of institutions all over the world: the institution of private property and privatization strategies. The driving forces behind this development are – besides the usual suspects, the International Monetary Fund, the World Bank, the World Trade Organization – governmental development organizations themselves.

For land use and land rights, development usually entails the formalization, specification and individualization of property rights. It is assumed that informal, collective forms of property rights should be converted into private property (Platteau 1996) because such policies will help ease land conflicts, enhance the efficiency of the land markets, guarantee tenure security and assure access to loans. Anything other than private property is seen as an inferior, immature type of property right.

The privatization strategy of national and international governmental development organizations has often been criticized. Nongovernment organizations (NGOs) working on environment and human rights issues are particularly vocal in arguing that private property on land means the loss of livelihood and forced evictions, especially among socially and economically vulnerable groups. They strenuously object to private property regimes that exclude all other forms of property rights because such regimes trample underfoot the manifold commons institutions that have ensured broad access to land and sustainable use for a long time. Governmental development organizations are taking greater notice of this criticism, but some promising conceptual alternatives are beyond the scope so far.

Anatomy of property rights

So where does this fixation on private property come from? From a legal point of view, private property rights grant the possibility to exclude other persons from an asset. Moreover, owners may do with their property as they like. However, traditionally private property on land has been heavily restricted by public law, e.g., building law. From another, economic standpoint, property can be interpreted as a bundle

of *ius utendi* (the right to use the asset), *ius fructus* (the right to take the yields, *fructus*), to change the asset (*abusus*) and to sell it (*ius abutendi*).

The dogma of land privatization was initially pushed by the Property Rights school, which emerged in the U.S. as a branch of New Institutional Economics in the 1960s (Demsetz 1967). Property Rights theorists stress the necessity of coupling a secure right of use with the *usus fructus* right and the right to sell the asset. They believe that this is the only way to ensure that the persons who bear the investment costs will reap the yields (Feder and Feeny 1993). Investments in improvements (plantings, renovations, houses, etc.) would be stimulated by individual ownership, and an overuse of resources (as described by Garrett Hardin in his "tragedy of the commons" essay) could be avoided. Apart from misleading wording – Hardin was in fact describing a tragedy of open access while commons are always characterized by controlled access¹ – this argument seems plausible at first glance.

However, it conceals an important fact. The right to take the yields from land (*usus fructus*) and the right to sell the asset (*ius abutendi*) are not limited to the "improvements" (such as plantings or buildings). They also include the most important sources of land value – the location, the intensity of use and the quality of the land compared with marginal lands (where the yields just cover the costs). Economists call these factors "differential rents." Such advantages are often circumstantial and beyond the control of individual owners. In most cases, in fact, the basis for land values is created by the community, e.g., changes in land use plans or investments in infrastructure that affect the value of the site.

A high share of these costs is borne by the community. These costs comprise the costs of planning, the costs of infrastructure construction and the opportunity costs of forgoing alternative public or private land use. In the case of improvements to land, individual owners both pay the costs and receive the benefits. But the same does not hold true for the actual unimproved land because rents and incremental values are privatized, whereas the lion's share of the related costs is borne by the community. The decoupling of benefits and costs is an important driver for a multitude of unfair aberrations such as land grabbing² and rent-seeking, and not only in developing countries (Lohr 2010).

However, the picture presented thus far is not complete. Many developing countries have both private property and state property regimes for land. But there are two reasons why that distinction is often more of a nominal than a real difference. First, while access should be controlled to protected areas – which are often former commons that lost that status during the formalization of property rights in land – the state often does not have the capacity or the will to control access effectively.³ Second, state property is frequently leased out as economic concessions to private sector actors for their private economic exploitation.

1 | For a more comprehensive account, see Peter Linebaugh's essay on the history of the commons on pp. 114–124.

2 | See Lis Alden Wily's essay on international land grabs on pp. 132–140.

3 | Ana de la illustrates this problem using the example of Mexico on pp. 203–205.

In Cambodia, for instance, "Economic Land Concessions" on so-called "State Private Land" now account for about 25 percent of the country's agricultural land. In addition, there are extensive concessions regarding forestry mining and other commercial activity. Although lands used under concessions are regarded as state property from an economic point of view they have all the characteristics of private property. Even the *abusus* right is oftentimes *de facto* in private hands, if, for example, forest protection laws are ignored by the concessionaires and the state ignores violations of the law. Unlike private property, the allocation of benefits from land is not driven by market forces, but by the state – oftentimes in the form of undisclosed payouts to political cronies. Apart from bribes that are often paid, concessionaires pay no acquisition costs, and the formal fees are often ridiculously low; the concessions are obviously privileges.

Flattened by the steamroller of privatization, rent-seeking and state capture

Rent-seeking occurs when institutions allow the privatization of land rents and incremental value at the expense of the community. Oftentimes land speculators and land grabbers hold the state hostage, or succeed in planting its representatives within government agencies. The result: needy people are deprived of their livelihoods, common resources get enclosed and the land concentration process continues. This mechanism of appropriation works in favor of the elite. The privatization agenda can succeed only by overcoming the separation of governmental powers. It generally needs a strong executive power and strong centralized state that can prevail against the lower administrative levels.

Although governmental development organizations may not consciously support land appropriation by the elite, they at least tolerate it while the general population disapproves. Governmental development actors are behaving schizophrenically in this regard: On the one hand they promote and demand "good governance" but on the other hand they are helping to issue a *carte blanche* for rent seeking (private property on land) that harms use of land as commons.

Increasingly, governmental development organizations see themselves as exporters of a product that might be called "private property titles in land." However, this product does not work well even in the western context, as seen in a long list of failures such as unused and underused sites, urban sprawl, and a systematic bias in the planning process in favor of influential investors (Löhr 2010). In western states, such extreme abuses of privatization are contained by a working separation of governmental powers and a constitutional state. This is not the case in many developing countries that have weak governance. In the end, governmental development organizations in fact are helping to eliminate customary rights in land and thereby destroy numerous land commons.

One size fits all?

The elite knows how to play the game. It has access to legal advice and personal connections to key governmental decision makers. In contrast, poorly educated rural people are defenseless when new land titles are suddenly claimed out of the blue. They do not understand what is going on until it is too late. With little understanding of the formal legal system and no political backing, they have barely any chance of successfully defending their traditional claims. However, law is based on mutual acknowledgement, without which there is no legitimacy.

The problem is a clash of norms. The formalized legal rights invoked by the elite are allowed to override the customary rights of the poor and marginalized to regulate their own commons. The abuse of law to sanction this power play is pushing many states into a state of *de facto* anarchy. Paradoxically, the resulting new state of "de facto open access" is sometimes producing a gridlock of fragmented, overlapping property rights claims, a problem known as a "tragedy of anticommons" (Fitzpatrick 2006).⁴¹

Economic and social consequences

It is of no surprise, then, that in many cases the results of privatization do not meet the stated expectations. Land is not allocated to the best users, but to speculators. Land often remains unused. "At best," land goes to agribusiness companies, i.e., to powerful and concentrated economic groups.

Ways of life and economic models with a low ability to pay are severely disadvantaged in this context. It means that the diversity of forms essential to a sound social and economic organism, is reduced. The disappearance of traditional ways of life and economic models often goes hand in hand with migration to big cities (and the rise of new slums) or to peripheral regions. Yet the influx of displaced people into peripheral regions, combined with a lack of effective access controls, only causes further degradation of natural resources that had been stable commons in the past. A telling example is the province of Pailin in Cambodia, where about 50 percent of the primary forest has been destroyed, and agricultural land gradually degraded, in recent years.

The central state bears responsibility for much of this harm. It grants most of the economic concessions, usually without consulting regional or local administrations. Oftentimes environment and social impact assessments are conducted inadequately or not carried out at all. The resulting overlapping land claims often lead to disputes, which concessionaires do not even try to solve by negotiating agreements with the people affected. Instead, they simply contact the central government, which has allotted the concession to them, because they expect that the government will "resolve" such conflicts in their favor, using police or armed forces if necessary. The people who lose their livelihoods then join the queue of landless migrants.

41) The tragedy of the anticommons is described by Michael Heller on pp. 68–73.

Toward a paradigm shift in development policy⁵

Considering the disastrous impacts of the privatization agenda in many countries, the proponents of the agenda have become more cautious. This has not led to a reconsideration of the privatization paradigm in general, however, but rather to ad hoc modifications of how it is administered on a case-by-case basis.

When challenging the privatization paradigm, several principles are essential.

2. *Neutral planning should provide space for a diversity of lifestyles and economic models.* This refers in particular to social and institutional forms that have a low ability to pay. Such forms are of inestimable importance for social cohesion and ecological functionality, and to enhancing a coexistence of formalized law and customary rights. A diversity of lifestyles and economic models might be supported, for instance, by allocating collective land titles to communities where customary rights are in place. Any legal relationships to outsiders to such communities, however, should be based on formalized law.

3. *The state should be as free from special interests as possible, in order to guarantee neutral planning and to provide scope for forms beyond the capitalist exploitation logic.* The collusion of private special interests with governmental institutions should be criminalized – something that is not always the case even with the western development “blueprints.”

3. *Fighting rent seeking also means skimming off land rent and incremental value as far as possible in favor of the community (de-capitalization of land).* This could be executed by an intelligently designed leasing or land taxation framework. It is clear that this requirement is difficult to enforce in countries where political decision makers are closely connected to owners of large estates and developers.

4. *In addition, state policymaking should reflect the principles of subsidiarity.* Lower administrative levels, e.g., within the land allocation process, should be granted greater powers.⁶ Of course, the decentralization of power is the opposite of what influential political decision makers generally want.

If community interests in shared natural resources are to survive, a new development agenda will need to be advanced, and it will need to sail against the wind. It is time to adjust the compass.

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5 | Charlotte Hess also makes observations for a new paradigm for development aid, referring generally to natural resource systems.

6 | Helen Matkelova and Esther Mwangi discuss subsidiarity and multilevel governance on p. 107–108.

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The Yasuní ITT Initiative, or The Complex Construction of Utopia

By Alberto Acosta

"The reasonable man adapts himself to the world, the unreasonable one persists in trying to adapt the world to himself. Therefore, all progress depends on the unreasonable man."

- George Bernard Shaw

Breaking myths will always be a complex task. So-called realism thwarts change. Whoever enjoys privileges that could be affected by such changes puts up resistance. That is why the idea to leave the oil in the Amazon region in the ground was criticized from the beginning. We knew that it would be difficult to cut a swath through the national and international oil interests and that people would do everything they could to weaken the innovative potential of this revolutionary approach.

Indeed, doubts have been raised ever since the Yasuni-ITT initiative was put on the agenda. (ITT is the abbreviation of the oil fields Ixtapingo, Tambococha and Tiputini.) People were baffled by the proposal not to drill for the 850 million barrels of heavy oil in the Yasuni National Park provided there would be an internationally financed compensation payment. Leaving 30 percent of a country's oil reserves untouched seemed completely crazy in an economy addicted to oil. But as crazy as the idea seemed, it attracted support and grew stronger.

The Yasuni ITI initiative has four key goals. 1) To preserve biodiversity unique to the planet - the Yasuni National Park is home to the greatest biodiversity per square kilometer registered by scientists to date, with as many species of trees and shrubs as in all of North America. 2) To protect the land and the lives of the indigenous peoples who live in voluntary isolation (the Tagaeri, the Taromenane and presumably also the Ohameenane). 3) To protect the climate in the interest of all of humanity and 4) To take a first step toward a post fossil fuel era in Ecuador.

And the fifth goal, one might assume, could be the possibility that we – as humanity – may find concrete and institutional solutions to the global problems that are resulting from climate change.

The feasibility studies that assessed the potential of this proposal - in comparison to producing the oil - came to encouraging conclusions. Even if one were to set aside the enormous ecological and social consequences of oil production, the option of leaving the oil in the ground would be more attractive than extracting it. In addition, this option would open up a scenario that would benefit everyone - Ecuador as well as the international community.

A proposal born of resistance

The initiative to abandon oil production was not inspired by any particular individual. It has no "owner," but was developed step by step in civil society. People who had suffered from the devastations caused by oil production in the Amazon region developed the proposal even before Rafael Correa became a candidate for President of Ecuador in 2006. Yet the fact that Correa accepted the initiative and the government then supported it was decisive. Correa took on the responsibility for turning the idea not to develop the ITT oil fields into actual policy.

At the turn of the millennium, resistance increased in the communities of the Amazon region and turned into a legal dispute of international significance. The so-called "trial of the century" litigated by the indigenous communities and those communities affected by Chevron-Texaco's oil production became widely known.⁴ The resistance of the Sarayaku Kichwa community in Pastaza province succeeded in preventing drilling by the Compañía General de Combustibles (CGC) in Block 23, even though the company was backed by the state and its armed forces. This community, which could rely on active international solidarity, obtained a pioneering decision by the Inter-American Commission on Human Rights in July 2004. The Commission argued for numerous measures benefiting the Sarayaku. In 2007, the Ecuadorian government finally accepted the resolution of the Inter-American Commission on Human Rights.

Supported by the categorical opposition of the people affected, a moratorium on extracting oil in the south-central Ecuadorian Amazon region gradually developed. Already formulated in various forms, the demand was taken up in the book *El Ecuador Post Petrolero* (*Post-Petroleum Ecuador*) in 2000 (Acosta 2000). The following year, a group concerned with foreign debt discussed whether this proposal might bring with it the opportunity of a historic agreement with international creditors: Ecuador could suspend payments on foreign loans and preserve the Amazon in exchange. All the demands were compiled, and this formed the basis for developing the proposal not to exploit the Yasuni oil as part of a broader oil moratorium. The idea was finally laid out in a position paper by Oil Watch⁴ in June 2005, and was forcefully brought into the national political debate. The Yasuni ITT initiative was included in the government program 2007–2011 of the

editorial deadline for this book. It was not known whether Chevron would appeal that decision.

a; Editors' note: Oil Watch is an international network that observes and analyzes the effects of oil production, especially on tropical ecosystems.

Movimiento País (today Alianza País)³¹ that was prepared during Rafael Correa's 2006 presidential campaign.

The character of a revolutionary initiative

Yasuni ITT would prevent 410 million tons of CO₂ emissions. In return, Ecuador expects a financial contribution from the international community. Individual countries, especially the more prosperous societies, can take on their part of the responsibility depending on their share of the environmental destruction for which they are responsible on this planet.

The initiative proposes that all peoples of the world change their relationship to nature profoundly by contributing to the establishment of a new global legal institution according to the principles of global environmental justice and joint responsibility for the global commons. This institution would not represent the interests of particular nations or private interests, instead, it would be a custodian for what is owned jointly by all of humanity: the atmosphere and biological diversity. This goes far beyond the logic of international cooperation, considered to be "development aid."

Audacity: a difficult course

This proposal has taken a convoluted path since becoming a topic of official political discussions. There were steps forward and back, successes and contradictions, approval and controversies. What is interesting, and actually surprising, is that this idea has taken root even though some people considered it extremely far-fetched. Briefly after its official launch, the encouraging voices soon multiplied, more so abroad than in Ecuador. The opportunity that something previously unthinkable would emerge came to the fore in the societal debate, in parliaments and in some governments.

Germany's early support must be mentioned here. Representatives of all parliamentary groups expressed their support for the ITT initiative in June 2008, and asked the German government for support. That is why the rejection of the proposal made by Dirk Niebel, the German Minister for Economic Cooperation and Development, in September 2010,³² was a slap in the face. Niebel's rebuttal German

31 Movimiento PAIS (also known as Acuerdo PAIS. PAIS is the abbreviation of *Patria, Alianza y Soberanía*, or "Homeland and Sovereignty") is a political movement in Ecuador that encompasses eight political groups. It was founded in 2006 and led by Rafael Correa. It had an absolute majority in the National Assembly from 2007 to 2013.

32 Dirk Niebel, "Rebuttal to the German Bundestag on the Yasuni-ITT Initiative," 2010.

41 Editors' note: Dirk Niebel (FDP), the German Federal Minister for Economic Cooperation and Development from 2007 to 2013, fears that the Yasuni ITT initiative might become a "negative precedent" (5). When the Budget Committee convened for its final meeting on this issue in November 2011, he justified his disapproval in the form of a personal letter in the *Frankfurter Allgemeine Zeitung*. He argued that Yasuni ITT would not work well, and that other policy tools are available to protect the environment and the indigenous population, for example,

reduced the chances for more support, as many potential contributors had taken Germany's solid commitment for granted. The decision apparently reflected a small-minded mentality, not one of a statesman with a broad vision.

Things were difficult in Ecuador as well. The proposal formulated by the then-Minister for Energy and Mining³³ at the beginning of Correa's presidency collided with the desire of Petroecuador's CEO to produce the oil as quickly as possible. The CEO even signed agreements with foreign companies behind the minister's back – and the minister was a member of Petroecuador's board. The confrontation was settled after President Correa intervened, on March 31, 2007, in an unusual procedure. He heated the debate up by presenting two options: *leave or sound*. On that day, the option to leave the oil in the ground was mentioned in very concrete terms as the first option, provided that the international community would contribute at least half the monies that would be generated in the event of exploitation. Option B – exploiting the oil – was sketched out in case that initiative were to fail. Since then, the conflict between the two options has been simmering with different degrees of intensity.

Later, the initiative's prospects veered back and forth between great hope and growing doubts. President Correa was applauded at the United Nations, OPEC, the World Social Forum and numerous international summits when he presented this way of protecting the Amazon and preventing major negative impacts on the global environment. But it was the same president who made it all too clear that it was a yes-or-no situation – in other words, that the oil would be exploited if there were no international financing. A scent of blackmail was in the air, and it fueled doubts.

In 2010, the Ecuadorian government defined how the revenue raised by the model would be spent. The funds would be controlled by the UN³⁴ and be spent on the transformation of the Ecuadorian energy supply model by developing the potential of alternative energy sources, reforestation and care of protected areas, sustainable social development, especially in the Amazon regions, and finally, investments in technological research.

A profound discussion in civil society quickly ensued, both domestically and internationally. Thanks to this debate, the original proposal, which used terms such as "compensation" and "international donations," was superseded by a different framing – joint contributions as the fundamental principle of global environmental justice. It became clear that one cannot be compensated for an obligation that one must perform in any case, namely global environmental protection. Debate about the Yasuni ITT initiative also made clear that there could be many financing options, and that emissions trading cannot solve all problems, as even the Ecuadorian delegation had assumed at times.

33 Editors' note: This refers to the author, Alberto Acosta.

34 The Yasuni trust fund is managed by the United Nations Environment Programme (UNEP). The goal was for a body independent of national interests to be responsible for managing the fund. Both the government and civil society are represented in the fund's steering committee. The agreement was signed on August 1, 2010.

As the project made distinct progress, it also stimulated hostile responses. Even President Correa dealt it a serious blow. As the only head of government in the world who had an avant-garde proposal to combat global warming, he needlessly risked a confrontation at the United Nations climate summit in Copenhagen in December 2009. After signing a document to establish the International Tropical Fund, he changed his mind at the last minute. His declaration, which was also directed against potential contributors to the fund, shattered the Yasuni ITT negotiating delegation, and the foreign minister handed in his resignation. Again, there were suspicions that oil interests had played a very important role.

Paradoxically, many people in Ecuador found out about the initiative only through these declarations made by the president, and through the ensuing situation.

The project at a turning point

We need clear signals for the Yasuni ITT initiative to become a reality. We need coherent and consistent government action. It is up to President Correa to overcome the problems that he himself helped cause and to prove his renewed and strengthened support for the initiative. He should commit himself to the position that ITT will not be touched, at least as long as he is in office.⁷ The activities linked to oil exploration and exploitation at the edges of ITT should not be permitted, either. And the government could put a stop to other threats to the Yasuni (deforestation, illegal logging, settling, illegal tourism) and prohibit the road from Manta to Mamas as a part of IIRSA.⁸ It would also be important to explore whether Peru would be able to implement a similar procedure in neighboring oil fields. The areas are in direct proximity to ITT and hold only about one third as much oil as the reserves under Ecuadorian territory. Such an expansion of the initiative could ensure that a much larger area with similar mega-biodiversity would be protected. This area is also home to peoples who have had no contact to the outside world as yet.

Even though it is not yet a reality, Yasuni ITT has produced many satisfactory results. The topic with its many facets has been positioned in the national and international debates. And there are people in Ecuador who are using hard-hitting arguments to advocate for the position that it is appropriate to leave oil in the ground even without international financial involvement. This Option C could be implemented via strict adherence to the constitution. After all, oil production in this area could take place only upon application by the president of the republic, and only on the basis of a "declaration of national interest" by the national assembly which can call a referendum if it considers it appropriate. Then, the Ecuadorian people would have the last word.

The true guarantor for the success of the Yasuni ITT initiative is dedication on the part of civil society in Ecuador and around the world. Only civil society can take up this project of life. Not extracting an amount of oil that humanity would use up in just nine days would provide a new way of viewing humankind's encounter with nature. It would break open the narrow horizon of selfish, short-term perspectives and encourage similar initiatives around the world. We need two, three, many Yasunis!

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Editors' note

Yasuni-ITT had started out with the goal of establishing a US\$150 million fund. Over the next five years, the targets were adjusted downwards, and the cutoff date was postponed time and again. By now, Ecuador's strategy for contributions has taken an important turn. The goal is not only to obtain contributions from the international community, but also from the Ecuadorian people and from private companies as well as public institutions. In 2011, the campaign Yasunízate was initiated (roughly, "Yasunify yourself!"), and it tried out a large variety of fundraising methods – one dollar per person, ~~etc.~~ in educational institutions and many others. By January 2012, governments had pledged about US\$69 million to the fund and Germany promised US\$47 million in bilateral technical assistance. President Correa renewed his commitment to the project and is seeking US\$295 million annually in contributions in 2012 and 2013, with an ultimate goal of raising US\$3.6 billion over twelve years. For now, no drilling has occurred in the preserve.

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7 | Editors' note: In other words, at least until 2013, however, Correa can run for another four-term.

8 | On The Initiative for the Integration of the Regional Infrastructure of South America, IIRSA, see also the conversation with Gustavo Soto Sanhsesteban on pp. 277–281.

Equitable Licensing – Ensuring Access to Innovation

By Christine Godt, Christian Wagner-Akifs and Peter Tinnemann

The results of publicly funded research need to be available for everybody – especially in the case of essential medicines. This basic concept relies on two principles: first, access to medical treatment and a healthy environment are human rights that should be available to everybody; and secondly, research in the field of medicine and environmental science is mainly publicly funded, which means that research should serve public needs and be available to the public. One attractive solution is a licensing model known as “Equitable Licensing,” which aims to ensure access to essential medicines resulting from publicly funded research that are protected by patents. This model can help ensure that the social goals of publicly funded research are met under the conditions of modern, patent-based technology transfer.

Equitable Licensing, sometimes known as humanitarian licensing, was first used 2001 to provide AIDS-stricken patients in South Africa access to essential medicines (Stevens and Efflor 2008). The concept empowers research institutions to pro-actively influence medical research and drug development, and thus responds to a major challenge of modern medicine in a globalized world: how to provide research and drugs for diseases that mainly concern people in low income countries (the so-called neglected diseases, e.g., malaria, tuberculosis, sleeping sickness). More significant is the fact that many medicines are available but only at the global market price, which is not affordable for most people; drug makers fear that tiered pricing will result in lower-priced drugs being imported back to high-priced markets, a problem known as “parallel imports.”

Equitable Licensing and Its History

The term “Equitable Licensing” was first coined in 2001 by Yale University. The university had given an exclusive license to the pharmaceutical company Bristol Myers Squibb (BMS) to use the patent on the HIV-medication d4T (Stavudine). d4T was initially discovered in the 1960s at the Detroit Institute of Cancer Research as a cancer therapy. In the 1980s, Tai-Shun Lin and William Prusoff at Yale University found the substance to be effective in treating HIV patients. Their research was funded by the US National Institutes of Health and BMS. Yale University filed for a patent for d4T in 1986, which was issued in 1990. Yale licensed the patent exclusively to Bristol Myers Squibb, which finally put its

proprietary version of d4T, Zerit®, on the market in 1994. As was common practice at that time, the medicine was marketed at a uniform price worldwide. In 2001, the daily dose per patient was available for nearly 12 euro, or about 4,369 euro per year (Schwabe and Paffrath 2002) – an unaffordable price for patients in Africa.

After the drug was put on the Essential Medicines List by the World Health Organization (WHO), Médecins Sans Frontières (MSF) found the price not sustainable for people with AIDS. In February 2001, MSF asked Yale University to waive the South African patent, but Yale rejected that request, citing the exclusive license to BMS. At this point, a group of Yale students intervened with public protests and William Prusoff wrote an opinion piece in the *New York Times*. Responding to public pressure, Yale asked BMS to grant “patent relief” and price cuts. BMS eventually agreed, signing an agreement with Aspen Pharmacare, a leading South African generic manufacturer in June 2001 that enabled local production of the AIDS drug. After the Indian drug manufacturer Cipla introduced a generic version of the drug, the price of d4T dropped by 96 percent within a year. This allowed MSF to scale up HIV treatment programs across Africa.

A very similar agreement was reached for Tenofovir, the active substance of the AIDS drugs Viread® and Truvada®, which had been licensed to the pharmaceutical company Gilead by the Rega Institute for Medical Research at Catholic University Leuven and the Institute of Organic Chemistry and Biochemistry in Prague (Van Overwalle 2009).

This simple model of lowering the price by Equitable Licensing and competition has matured over the past decade with different types of “humanitarian licensing.” One approach creates direct supply obligations for the licensee; another seeks to indirectly lower prices by asking patent holders not to assert patent rights in certain countries, which then enables the local production of cheaper generic drugs. Equitable Licensing has been institutionalized by programs like the “Socially Responsible IP Management Program” at the University of California, Berkeley, and private companies like Boehringer Ingelheim have implemented policies of not asserting patent rights. In 2009, the University of Edinburgh adopted an explicit policy statement that basically follows a “non-assert” approach: for Least Developed Countries, the university “expects” its industry partners to “appreciate and cooperate” with this policy.

An offspring of the Yale student initiative is the foundation of LAEM (Universities Allied for Essential Medicines), which now has various chapters worldwide. The group developed the first standard form of an Equitable License, and instigated the so-called Philadelphia Consensus Statement in 2006 in which university leaders acknowledge their institution’s social responsibility in making essential medicines accessible.¹

The term “Equitable Licenses” is broadly synonymous to “Humanitarian Use Licenses,” “Equitable Access,” “Global Access,” and to some extent to “two-tiered

1 | http://www.med4all.org/10readmin/med_pdf/Edinburgh_Essential_Medicines_Position_Statement_2009.pdf

2 | <http://www.essentialmedicine.org>

pricing." It differs, however, from other forms of promoting access to medical innovations in five central aspects:

- Equitable Licenses build on contracts such as bilateral and multilateral consortia agreements. Therefore, they are distinct from unilateral governmental intervention such as compulsory licenses.³⁷
- The essence of the contract is the transfer of knowledge in one direction, encompassing both time-limited acquisition of rights and long-term research collaborations. Thus Equitable Licenses are different from collective licensing models like clearinghouses,³⁸ patent pools³⁹ or information platforms.⁴⁰
- The term "Equitable License" is confined to the transfer of knowledge from public research institution towards private industry. Thus, purely private agreements between competitors are not included.
- Purely unilateral private actions like the so-called "non-assert pledges" by industry are equally exempt. They are not "Equitable Licensing" as there is no involvement of a public research institution.
- Equitable Licenses have a clearly envisioned group of beneficiaries and so they are not geared to broadly fostering progress in a given sector. This stands in contrast to the new initiatives fostering "green technologies" (Hall and Helmers 2010).⁴¹

Equitable Licensing and technology transfer

Equitable Licensing builds on the modern concept of proprietary technology transfer from universities to industry, universally labeled as "post Bayh-Dole." That term refers to the US Bayh-Dole Act of 1980,⁴² which was the first of a series of laws enacted by the US Congress to allow university patents on results developed through publicly funded research. Before Bayh-Dole, patents deriving from publicly funded research belonged to the US government. This law laid the foundation for the boom of new startup companies, especially in biotech and information technology fields, by allowing them to exploit cutting-edge academic research. The law helped to reorient the sciences away from basic research and towards applied product development and new organizational forms of research

infectious diseases and a number of other diseases. The process is also supported by the industry.

The Bayh-Dole Act, however, could not deal with the question of whether basic research was not seen as having a specific use in mind, since Bayh-Dole basic research owes a return on investment to the consumer. The law's central mechanism is the patent mechanism, which enables early investment in new technology to reap later returns through a monopoly price. However this financing mechanism does not function if consumer demand is not sufficient. In the case of neglected diseases, the pool of patients is either too small or not economically significant.

In these cases, public funding aims at remedying market failures. This is done either by funding research or by setting incentives for investments, e.g. a "priority voucher" for humanitarian uses, as set up by the US Patent and Trademark Office in 2010, or a priority voucher for the development of drugs that are relevant for developing countries, as issued by the US Food and Drug Administration in 2008. Another possibility is setting up state-owned research institutions, such as the new National Center for Advancing Translational Sciences (NCATS) set up under the roof of the US National Institutes of Health in December 2010.

Equitable Licensing complements these state interventions (in particular research funding) because it links publicly funded research to institutional and personal social responsibility, and transmits these responsibilities to an industrial partner who develops a product from early research. In other words, the licensing aims at both market failures that stem from insufficient demand, i.e., impoverished patients and at social obligations that are linked to taxpayer-funded research.

Until recently, the success of university technology transfer offices has been evaluated only in terms of numbers of business spin-offs, the amount of financial revenues from contracts, license fees and equity shares in companies. However, successful integration of Equitable Licensing into a technology transfer office's portfolio seems to require a "just" remuneration of the time invested in projects with a high social value. Also, the widely used standard contracts require adaptation (Godt 2011). After all, negotiating extensive contracts that exert influence on the utilization of medicines is a time-consuming and ambitious process. On the other hand, research institutions need to understand that Equitable Licensing can enormously boost an institution's reputation.

This leads to two conclusions. A patent license must not be awarded to a commercial partner just because it is promising the best license fee. Second, the institution needs to be interested in owning and managing the patent for a long time. This requires that both the research institution and its industrial partner recognize their own benefits from Equitable Licensing and develop appropriate new criteria for rewarding this innovative form of technology management. Carol Munira, technology manager of University of California Berkeley, advocates noneconomic metrics that are not linked to any financial returns from a license, but rather reputational gains and medical costs saved (Munira 2010). These social benefits can be quantified by econometric measures used in health economics like DALYs (Disease Burden) and Years of Life Expectancy (YLE) (World Bank 2010). For these

37 Compulsory licenses are rights to use given by the government to a competitor in case of a public emergency, art. 31 TRIPS.

38 Clearinghouses are institutions offering the service of exchanging and bundling licenses for a specific technology area, without the exclusivity and not bilateral as a patent pool (see Van Overwalle 2009).

39 The most famous AIDS patent pool is the one under construction by UNITAID. UNITAID was founded in 2006 by five countries with the mission to improve access to treatment for HIV/AIDS, malaria and tuberculosis. See <http://www.medicinespatentpool.org>.

40 For example, the EMB-Singapore joint research platform for malaria in <http://www.malaria-man-tsuiy-tse.com> (Malaria Man Tsuiy Tse 2010, Nature Reviews, Vol. 7, 1184).

41 Ibid.

42 35 U.S.C. (United States Code) § 200-212, and implemented by 37 C.F.R. (Code of Federal Regulations) 40.

conceptual need to benefit is practical experience with implementation on site. As universities recognize that financial returns are not the only measure of success. The basic principles need to be reflected in corresponding institutional policies to which the employees of the technology transfer office can refer to.

An important element of Equitable Licensing is the unique motivation of scientists. The example of the drug Miltefosin shows that it is the insistence of researchers who might also oppose institutional, economic driven decisions that contributes to breakthroughs in the development of essential drugs (Wagner-Ahlfs et al. 2010). The case study also shows that individual dedication to research is more important than either patent or product development policy. In this constellation, Equitable Licensing can transfer the scientist's activism for drug utilization into long term contract commitments.

Equitable Licenses – a pragmatic approach to the commons

Equitable licensing is a pragmatic concept in that it builds on both proprietary research and publicly funded research. It accepts the modern reality that public research results are often patented, and does not demand a public research commons. What matters in Equitable Licensing is that medicines are made available to those in need. Since the patented medications are developed only because of public investments, public policy has an obligation to impose certain public responsibilities on the owners of research results. Equitable Licensing does not rely upon only one standard contract to achieve this goal, however. It can be realized with different standards of performance. Universities can select a "Gold," "Silver" or "Bronze" standard, for example, a modular concept of licensing developed by Christine Godt and Tina Marschall (2010). The publicly available guidelines translate the aimed level into concrete license modules.

Equitable licensing brings three innovations. First, it uses specific contractual commitments to improve the availability of medications developed with public funds. Second, it coordinates the work of many more actors and allows researchers themselves to decide how the fruits of their research will be put on the market, guided by a university's formal policies. Third, the public interest is not exclusively entrusted to governments (via compulsory licensing, for example); patent owners and nongovernmental organizations can play an active role. In this way, Equitable Licensing provides an important practical measure of shared benefit from publicly funded research.

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10] <http://www.worldbank.org/external/default.asp?selected=0&path=/data/external/quickv/qvinfo.asp?source=/data/external/quickv/qvinfo.asp&selected=0&path=/data/external/quickv/qvinfo.asp> first used 1993 in a world nutrition report by the World Bank. About the method, see Murray 1994.

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P2P-Urbanism: Backed by Evidence

By Nikos A. Salinas and Federico Mena-Quintero

After decades of central planning that ignored local conditions and the complex needs of final users, and then tried to do away with the commons for monetary reasons, people have forgotten the principal geometrical, human-scaled patterns that generated our most successful urban spaces throughout history. There has been an important loss of the shared knowledge that once let people build humane environments without much in the way of formal planning.

The general form of urbanism implemented during the 20th century and the beginning of our own 21st century was large-scale, centrally planned development. Different methods of design came into vogue during this time, each explicitly trying to avoid traditional building forms and techniques that have been used for hundreds, if not thousands of years. This was done just for the sake of “not doing the same that we did in the past.” The most prominent “moral leaders” of architecture and urbanism have been the “architects” widely known designers whose buildings have notorious visual characteristics, and which are heavily marketed for the sake of novelty alone.

Beyond the architecture of buildings, post-World War II planners implemented formal codes as regulations, primarily as a reaction to existing, largely unregulated codes that guaranteed the modernist transformation of cities. Mass industrialization during the 20th century led to car-centric development, making it impractical to walk from one place to another. Money-oriented development produced building forms whose disadvantages have been widely discussed: skyscrapers with plenty of sellable floor space but whose form destroys the urban fabric, cookie-cutter housing that does not really fit anyone’s needs, office parks that are not close to where the workers actually live.

The New Urbanist movement began as a human-scaled alternative to modernist city planning, which was based upon distances, spaces and speeds that cater to machines and the needs of industry. Among other things, New Urbanism promotes walkable neighborhoods where people can live, work and socialize without being totally dependent on cars. It also promotes non-rigid zoning that allows a mixture of work, industry and housing, all done with well-proportioned buildings that borrow heavily from traditional forms and techniques. In Europe a similar movement is known simply as “traditional urbanism.” Both groups of urban practitioners share a willingness to revive the common sense of the planning of their

neighborhoods – in contrast to centrally-planned development that creates large complexes of buildings with little to no input from the final dwellers or users.

Nevertheless, New/Traditional Urbanism is still centrally planned and done on a large scale, instead of allowing the initiative for design and construction to be taken by the final users themselves. This is an accident of the times, since existing practices for how construction is financed tend to favor large-scale development. A bias towards top-down implementation is also due to the very pragmatic wish of New Urbanists to “plug into” the existing system rather than to start everything from scratch. New Urbanists have tried to promote decentralized development with the publication of the Duany-Plater-Zyberk (DPZ) planning and zoning document, *Smart Code*, for free on the Internet in 2003.¹ *Smart Code* is a repository of measurements and detailed design guidelines for generating a human-scale city, very different from the Modernist urban codes now imposed by law.

There is evidence that people in numerous places in the world want to end the domination of Modernist thinking in urban planning. Political movements in Europe have finally stepped in to play an active role in urban renewal. Monstrous tower blocks have been demolished, replaced by human-scaled urban fabric designed by local groups. And we have such examples occurring all over the world, each seeking a sharp break from the power base and mindset that still clings to a top-down bureaucratic (and authoritarian) worldview. In many places, however, the law has been used to classify inhuman buildings as “monuments” and thus to indefinitely prolong the symbols so beloved by professional architects and planners.

The combination of peer-to-peer and urbanism

That is precisely where the recent P2P Urbanism comes into play. The P2P Urbanism movement is drawing in urban designers and planners who have been working independently for years. People who join P2P Urbanism represent a heterogeneous group consisting of individuals championing collaborative design and user participation in planning. New Urbanists tied to the commercial US movement building neotraditional urban fabric, followers of the father of pattern theory and architect Christopher Alexander, author of *A Pattern Language*,² urban activists, and others. Gradually, practitioners in other fields bring in their knowledge where appropriate. These include permaculturists (who design productive ecosystems that let humans live in harmony with plants and animals) with a deep practical understanding of biophilia, advocates of vernacular and low-energy construction, and various independent or resident communities that wish to sustain themselves “from the ground up.”

P2P Urbanism is all about letting people design and build their own environments, using information and techniques that are shared freely. In parallel to the free/open source software movement, designing a city and one’s own

1 | <http://www.transact.org/codes.html>

2 | See essay by Franz Norrads on pp. 95–101.

3 | See Rob Hopkins’ essay on resilience on pp. 19–24.

open source code works. The rules of a code are shared, not secret. The design rules rather than some "secret" code decided upon by an appointed authority. Furthermore, open source urban code must be open to modification and adaptation to local conditions and individual needs, which is the whole point of opensource. For example, the DPZ "Smart Code" not only allows but requires calibration to local conditions, and for this reason, in our view, it pertains to P2P-Urbanism despite the corporate parentage of many New Urbanist projects.

One implication of this new way of thinking about the city is to encourage reclaiming common urban space. A significant phenomenon in 20th century urbanism has been the deliberate elimination of shared public space. The open space surrounding standalone Modernist buildings tends to be amorphous and hostile, and therefore useless for common purposes. Attractive public space was recreated in privately controlled spaces within commercial centers. In this way, common space that is essential for citizen interactions (and thus for generating shared societal values) has been privatized, re-packaged and then sold back to the people. P2P-Urbanism reverses this tendency.

Participation schemes for urbanism and architecture

Centrally planned environments are often designed strictly "on paper" and subsequently built to that specification, without any room for adaptation or for input from the final users. The worst examples are the results of speculative or megalomaniac building with no adaptive purpose in mind, like Brasília and Pruitt-Igoe (Saint Louis). A top-down way of thinking and urban implementation determines accessibility to public housing and facilities built by government, and has fixed the division of power in the urban arena. However, there has always been a small corps of P2P thinkers and urbanists/planners promoting participatory events outside the official planning system. Those interventions have tended to be temporary rather than permanent, however, because of the difficulty of implementing changes in the built fabric.

Successful urban design has everything to do with real quality of life and sustainability. People's instinctive preferences can be driven either by biophilia (a preference for organic, natural environments) or fashion (with sometimes disastrous consequences). With the Modernist or post-Modernist architectural status quo, the main consideration for construction has been the visual impact of the finished product. P2P Urbanism, by contrast, is as concerned about the process of planning as with the final, adaptive, human-scale outcome. It represents a set of qualities and goals that go far beyond architecture and urban design. The principles of good urbanism and architecture may be widely shareable and acceptable by "everyday people," but they are not entirely obvious. For example, it takes careful explaining to convince people that a pedestrian network can be woven into car-centric cities, and that rather than making traffic chaotic, this will in fact reduce traffic, which is something that everyone would appreciate. In terms of evolutionary design, a step-by-step design process that takes account of real-time constraints and human needs leads to the desired final result, something impossible to achieve from a pre-conceived design.

An architect familiar with the needs of a certain region may know, for example, that a Southern European or North American house must have a certain eave in a particular region with a certain average of wind and rain. A builder well-versed in the actual craft of construction, however, knows that to build this kind of eave with a rational, mass-produced strategy is often not a practical matter and techniques. The final dweller of a house will be interested in protecting windows and walls from rainfall, and may want to have a say in what kind of window to build if he wants it to open to the outside; then it must not bump against the wide eave. Thus it is important to establish communication between users, builders, designers and everyone who is involved with a particular environment.

Our hypothetical rainy region will doubtless have other problems that people in similar regions of the world have encountered. P2P Urbanism lets these geographically separated people connect together to learn from each other's experiences. Trial and error can be reduced by being able to ask, "Who knows how to build windows and eaves that will stand this kind of rainfall?" – and to get an answer backed by evidence.

Bigger problems can be attacked in a similar way. Instead of abstract, philosophical-sounding talk like "the shape of the city must reflect the spirit of the age," and "windows must be designed to mimic a curtain wall" (why?), we can look for evidence of cities that are humane and livable. We can then adapt their good ideas to local conditions, drawing upon the knowledge of all the people who participate in the P2P Urbanism community.

Construction firms that embrace P2P-Urbanism may end up being well liked in the communities where they work, for they will actually be in constant communication with the users of their "products." They won't just be doing hit-and-run construction that is not loved or cared for by anyone. Up to now, residents have not been able to make any changes on "signature" architecture projects, nor alter the unattractive housing blocks they happen to reside in for economic reasons. P2P-Urbanism instead advocates that people be allowed to modify their environment to suit their needs, and not be forced to rely exclusively on a designer who does not even live there.

P2P Urbanism is like an informally scientific way of building: take someone's published knowledge, improve it, and publish it again so that other people can do the same. Evidence-based design relies upon a growing stock of scientific experiments that document and interpret the positive or negative effects that the built environment has on human psychology and well-being.

A central feature of New Urbanist projects is a pre-project "charrette" that involves user input in a one- or two-day presentation open to public participation. Although sometimes applied in only a superficial manner, a charrette process in the best cases is not just an opinion poll, it is also a nondogmatic educational process, a dialogue among stakeholders leading to a final agreement. The result reaches a higher level of understanding compared to where the individual participants started from.

Epilogue

Everything seems stuck in a quagmire – yet a new future is emerging

BANGKOK AUGUST 25, 2011 It's hot and humid in the city. The air conditioner's low buzz is the background noise for the academics and activists who have gathered for the "Re-Thinking Property" conference in the auditorium of Chulalongkorn University. The mostly Asian participants are inspired by the idea of analyzing property from the perspective of the commons, which then unexpectedly becomes a focus of the conference.

BERLIN NOVEMBER 28, 2011 In Germany's capital, some of the country's most important climate researchers have convened even though the UN Climate Conference (COP 17) begins that very day in Durban, South Africa. At a press conference, they introduce the Mercator Research Institute on Global Commons and Climate Change to the public (see pp. 302). When asked about the practicality of the commons approach, Ottmar Edenhofer, the institute's director-designate, explains, "One cannot get concrete in a reasonable way if mistakes have already been made in the guiding concepts." This is exactly what has happened over the course of the previous decades, Edenhofer believes, and for that reason the new institute seeks to assess the significance of the commons as a guiding concept in future climate research.

PORTO ALEGRE JANUARY 24, 2012 Oppressive heat weighs heavily on the city's downtown, whose streets are deserted; not a blade of grass is to be found. It is January, the summer break. About 100 people from various social movements and independent think tanks have been invited to the birthplace of the World Social Forum in southern Brazil to participate in a strategic dialogue as part of a Thematic Social Forum. They divide into 17 working groups to prepare for the Earth Summit in Rio de Janeiro – "Rio+20" – and to consider alternatives to both market-fundamentalist approaches and top-down "green economy" policies. One insight becomes clear – the guiding idea of more multilateral regulation for greater efficiency will not solve persistent conflicts over how to use common resources. "Efficiency" simply cannot grapple with actual power relationships and legal structures, let alone overcome the market/state duopoly's deep commitments to relentless growth. A new paradigm is needed, along with new forms of democracy and governance, most Porto Alegre activists agreed after a week of dialogue.

PARIS, JANUARY 26, 2012. The city is about to be hit by a cold snap. In a surprising move, French politician Kader Arif resigns from his position as rapporteur of the European Parliament for the Anti-Counterfeiting Trade Agreement (ACTA) ahead of schedule. He explains: "I would like to harshly denounce the entire process that has led to the signing of this Agreement.... The European Parliament was denied the right to express its opinion and to put the citizens' legitimate demands forward as arguments...." He adds, "I hereby warn the public about this unacceptable situation. I will not take part in this masquerade."¹ Negotiations leading up to the Agreement, which aims to control how people can create and share music, video and information on the Internet and other digital technologies, were carefully kept under wraps, deliberately excluding citizens from participating. The public outcry against ACTA is therefore less surprising than the blunt candor of Kader Arif's words. Despite the bitter cold across Europe, there were numerous protests on the continent's streets opposing ACTA and its secretive, corporate dominated policymaking process.

CAPE TOWN, JANUARY 27, 2012. People from many places around the Cape walk the four kilometers from Adlon Stadium to Rondebosch Commons together. They want to occupy this place to discuss problems they face every day: housing, land use, evictions, police brutality and increasing segregation.² A commons does not exist, they say, if it exists in name only. For this reason, their three day gathering on Rondebosch Commons focuses on how to reclaim control. *Take back the commons* is the name of the campaign.³ Its principles: "We are communists. We are all leaders. We include everyone. We are constructive. We must not only change the world, but ourselves. We demand our right to the Commons! We practice a culture of caring and sharing." That vision seems to be too extreme. The police intervene with a massive show of force and arrest 42 people.⁴

ROME, FEBRUARY 11, 2012. A blizzard has brought the Eternal City to a standstill. Covered with snow, it is as photogenic as ever. The audience is shivering at the Teatro Valle in its prime location between the Pantheon and the Piazza Navona. The theater staff has been occupying the Valle for eight months, seeking to reclaim their Valle as a *bene comune* (a commons), both in practical and institutional terms. Since its occupation, the Valle has not been a theater "where you simply go, buy a ticket and watch the show," says theater technician and occupier Valetto. He points out: "The real show takes place before the show," when people exchange ideas, work together and take part in workshops and conversations that permeate the lives of those involved. Irene, a photographer at the Valle, explains: "It could be very important today that we learn to understand that everything is ours, including the problems!"

1. For the entire text of the declaration, see http://de.wikipedia.org/wiki:Kader_Arif.

2. Quoted by Christopher McMichael, <http://www.mahala.co.za/teatro-take-back-the-commons>.

3. See <http://www.takebackthecommons.org/>.

4. See <http://www.mahala.co.za/teatro-take-back-the-commons>.

5. See <http://img.co.za/article/2012-01-30-charges-against-occupy-rondebosch-protesters>.

6. Ibid., 11.

On the theater's stage this day, a gathering of international guests is considering an exciting question: how to systematically introduce principles of the commons in the European legal framework?⁵ Addressing this question are ACTA activists from Poland and Bulgaria, urban researchers from Spain, Italian professors of law, consultants to the European Commission, members of the German Pirate Party, and many others. They seek to initiate legislative proceedings at the European level, beginning in April 2012, to bring about a European Commons Charter. The Charter Campaign was started by, among others, scholars at the IUC (International University College), an institute of law at Turin University for graduate students from around the world. The IUC had already launched a 2011 water referendum in Italy in which an incredible 27 million people voted for "water as a commons," defeating privatization proposals. The link between current political movements and the idea of the commons debate is not always thus obvious. That is why a video featuring voices from the Teatro Valle is entitled *Occupying the Commons*, referring to both the traditional right of commoners to oppose enclosures and tear down fences, and to the Occupy Movement.

NEW YORK, FEBRUARY 16, 2012. More than 100 people assembled at the Ascension Church in Brooklyn for a three-day Occupy Wall Street Forum on the Commons. The event took place simultaneously online and offline, so that people in New York and everywhere else could participate at the same time. The Commons and Occupy movements share more than a basic commitment to understanding democracy itself as a commons: they both struggle to care for it and build it. Democracy ultimately only exists as a social practice, and must be constantly renewed. That was indeed the point of the New York forum as well as this book: we must actively reproduce the commons and find the ways to honor the principles of the commons. Developing appropriate governance systems that embody these principles will naturally advance the interests of the 99 percent.

AND ALL AROUND THE WORLD. In the months before this book went to press, there was a flurry of many other initiatives attempting to push the commons paradigm forward.

In Brussels, a Green Party foundation and two environmental think tanks, Oikos and Etopia, had to turn away people at the door for a major environmental conference on the commons.

In Geneva, the UN Institute for Training and Research (UNITAR) launched a four-module online course on the commons that attracted hundreds of participants from dozens of countries.

In San Francisco, Mayor Ed Wood formally launched The Sharing Economy Working Group to explore the economic and civic benefits of collaborative consumption and other forms of sharing.

In Naples, Italy, Mayor Luigi de Magistris convened municipal officials from throughout Italy to promote the protection of local commons. He also actively pushed an exploratory effort to win a Europe-wide vote for a European Directive on the Commons.

In London, The School of Commoning hosted a twelve-part seminar series, "The Emergence of the Commons-based Economy," and in Barcelona and Buenos Aires, other commoners began plans to start their own commons educational projects.

And so it goes.

To us, the evidence seems clear: people everywhere have a strong desire to escape the helplessness that institutions impose on them, overcome the cynicism that blots out optimism, and transcend the stalemates that stifle practical action. Another world is possible beyond market and state. This book chronicles some new ways forward – and the beginnings of an international commons movement.

Silke Helfrich

David Bollier

May 1, 2012

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THE WEALTH OF THE COMMONS

A World Beyond Market & State

We are poised between an old world that no longer works and a new one struggling to be born. Surrounded by centralized hierarchies on the one hand and predatory markets on the other, people around the world are searching for alternatives. *The Wealth of the Commons* explains how millions of commoners have organized to defend their forests and fisheries, reinvent local food systems, organize productive online communities, reclaim public spaces, improve environmental stewardship and re-imagine the very meaning of "progress" and governance. In short, how they've built their commons.

In 73 timely essays by a remarkable international roster of activists, academics and project leaders, this book chronicles ongoing struggles against the private commoditization of shared resources – often known as market enclosures – while documenting the immense generative power of the commons. *The Wealth of the Commons* is about history, political change, public policy and cultural transformation on a global scale – but most of all, it's about individual commoners taking charge of their lives and their endangered resources.

"This fine collection makes clear that the idea of the Commons is fully international, and increasingly fully worked-out. If you find yourself wondering what Occupy wants, or if some other world is possible, this pragmatic, down-to-earth, and unsentimental book will provide many of the answers."

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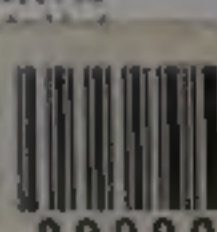
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